SIMPSON
Strong-Tie®
CONNECTORS

THERE IS NO EQUAL

WOOD CONSTRUCTION CONNECTORS



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SIMPSON
Well-Connected
Structure

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Effective: 1/1/2001

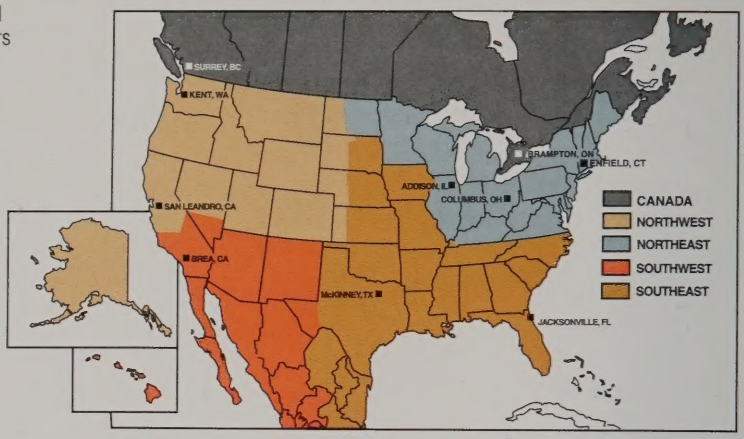
CATALOG C-2001

COMPANY PROFILE

The Simpson Company was founded in Oakland, California in 1914 and has been manufacturing wood-to-wood and wood-to-concrete connectors since 1956. Since then, Simpson Strong-Tie Company, Inc., has grown to be the world's largest manufacturer of construction connectors.

The Simpson Strong-Tie Co., Inc. "NO EQUAL" program includes:

- Quality products value-engineered for the lowest installed cost at the highest rated performance levels.
- Most thoroughly tested and evaluated products in the industry.
- Strategically-located manufacturing and/or warehouse facilities.
- National Code Agency listings.
- Largest number of patented connectors in the industry.
- International sales team.
- In-house R and D, and tool and die professionals.
- In-house product testing and quality control engineers.
- Member of AITC, ASTM, ASCE, CSI, NBMDA, NLBMDA, SETMA, STAFDA, NFBA, WTCA and local organizations.



NEW CATALOG FEATURES

19 NEW PRODUCTS

New products are shown with the NEW symbol.

CHANGES IN RED

Significant changes from last year's catalog are indicated in red.

CONNECTOR SELECTION KEY

Products in this catalog are divided into 14 general categories. These are identified by tabs along the page's outer edge.

TECHNICAL SUPPORT

- What Simpson catalog are you using? *(see the front cover for the form number).*
- Which Simpson product are you using?
- What is your load requirement?
- What is the carried member's width and height?
- What is the supporting member's width and height?
- What is the header material and application?

(800) 999-5099 • www.strongtie.com

TECHNICAL PUBLICATIONS & SOFTWARE



Anchor Systems

Includes specifications and installation instructions on chemical and mechanical anchors, and a comprehensive range of anchors for concrete, brick, and masonry. Includes load tables and material specifications.



Light Gauge Steel Construction Connectors

Connectors for light gauge steel stud construction. 30 products have been developed and tested using screw fasteners to obtain actual load values. Includes installation requirements and illustrations.



High Wind-Resistant Structural Connectors

For builders and homeowners on retrofitting and new construction in highwind areas.



Factory Built Structures Connectors

Connectors for the modular/ manufactured housing industries. Products have been developed and tested using industry fasteners and design criteria to obtain load values. Includes product drawings, installations, dimensions, materials and finish.

Do-It-Yourself Connectors Catalog

Suitable for a wide range of capabilities, this catalog includes nail and load tables, and ideas for home projects. Includes connectors for Decks, Gazebos, Home Projects, and the Color Systems shelf brackets.

Color Systems Creative Shelving Solutions

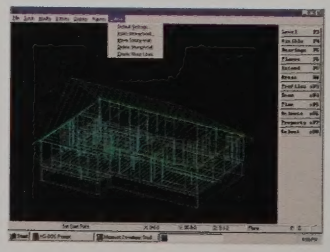
offers four distinct shelf bracket styles in thirteen powder-coated colors. We have a shelf bracket to fit your organizational needs while matching your home's décor. Visit **colorbrackets.com** for more product information.

Simpson's Free CD-ROM

Our CD-ROM features our latest catalogs, fliers, technical bulletins, code reports, product list prices, UPC information, and drawing files in DWG, DXF, and WMF formats. Drawing files are perspective and orthogonal views as well as a sampling of 3d drawings.

KeyLat™ Lateral Design Software for the 1997 UBC

This module of KeyBuilder™ makes calculating lateral design loads easier. Free demo disc available to licensed architects and engineers. Contact us at **www.keybuilder.com** for detailed information on specifications and ordering.



Rotated view of a house drawn using the MODEL package. Note the activated LATERAL menu.

CONNECTOR SELECTION IDENTIFICATION TABS

CONNECTOR SELECTION KEY

Products in this catalog are divided into fourteen general categories. These are identified by tabs along the page's outer edge.

For your convenience, we have supplied additional adhesive tabs below.

Simply peel off the tab and place it on the edge of the page you wish to identify for easy access.

In addition, the page is perforated for removal if desired.

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CONNECTOR SELECTION KEY

Products in this catalog are divided into fourteen general categories. These are identified by tabs along the page's outer edge.

Visit our new consumer website **www.wellconnectedhouse.com**

This visually informative website is intended to educate homebuyers on the need for, and benefits of, using connectors in residential construction.



This catalog reflects changes in the allowable loads and configurations of some Simpson Strong-Tie Company, Inc. products. ***This catalog is effective until December 31, 2001,*** *and supersedes all information in all earlier publications, including catalogs, brochures, fliers, technical bulletins, etc. Use this edition as a current reference. Information on allowable loads and configurations is updated annually.*

After December 31, 2001, contact Simpson Strong-Tie for the most current product information.

Allowable loads in this catalog are for the described specific applications of properly-installed products. Product modifications, improper loading or installation procedures, or deviations from recommended applications will affect connector allowable load-carrying capacities.

Load adjustment factors for optional nails used with face mount hangers and straight straps

Catalog Nail	Replacement Nail	Allowable Load Adjustment Factor
16d common	10d×1½	0.64
16d common	10d common/12d common	0.84
16d common	16d sinker	0.84
16d common	16d×2½ (N16)	1.00
10d common/12d common	10d×1½	0.77
10d common/12d common	16d sinker	1.00
8d common	8dx1¼	0.71
8dx1½	8dx1¼	0.76
16d common	spiral 8dx2½	0.70
16d common	spiral 10dx3	0.83
16d common	spiral 16dx3½	0.96
10d common	spiral 8dx2½	0.83
10d common	spiral 10dx3	1.00

1. 10dx1½" or 16dx2½" nails may not be substituted for joist nails in double shear hangers (i.e. LUS, HUS, HHUS). Contact factory for exceptions.
2. Do not substitute 10dx1½" nails for face nails on slope and skew combinations or skewed only LSU and LSSU.
3. This table does not apply to specials (see Hanger Options), or steel thicker than 10 gauge.

If Common Rafter Roof Pitch is... / Then Hip/Valley Rafter Roof Pitch becomes...

Rise/Run	Slope	Rise/Run	Slope
1/12	5°	1/17	3°
2/12	10°	2/17	7°
3/12	14°	3/17	10°
4/12	18°	4/17	13°
5/12	23°	5/17	16°
6/12	27°	6/17	19°
7/12	30°	7/17	22°
8/12	34°	8/17	25°
9/12	37°	9/17	28°
10/12	40°	10/17	30°
11/12	42°	11/17	33°
12/12	45°	12/17	35°

Use these conversion tables only for hip/valley rafters that are skewed 45° right or left. All other skews will cause the slope to change from that listed above.

US Standard Steel Gauge Equivalents in Nominal Dimensions

Ga	Approximate Dimensions		Decimals (in)		
	in	mm	Uncoated Steel	Galvanized Steel (G60)	Z-MAX
3	¼	6.0	0.239	—	—
7	3/16	4.5	0.179	0.186	—
10	9/64	3.5	0.134	0.138	0.140
11	⅛	3.1	0.120	0.123	0.125
12	7/64	2.7	0.105	0.108	0.110
14	5/64	2.0	0.075	0.078	0.080
16	1/16	1.6	0.060	0.063	0.065
18	3/64	1.3	0.048	0.052	0.054
20	1/32	1.0	0.036	0.040	0.042
22	1/32	1.0	0.030	0.033	0.035

Steel thickness may vary according to industry mill standards.

Metric Conversion

Imperial	Metric
1 in	25.40 mm
1 ft	0.3048 m
1 lb	4.448N
1 Kip	4.448 kN
1 psi	6895 Pa

Bolt Diameter

in	mm
⅜	9.5
½	12.7
⅝	15.9
¾	19.1
⅞	22.2
1	25.4

SIMPSON'S QUALITY POLICY

We help people build safer structures economically. We do this by designing, engineering and manufacturing "No Equal" structural connectors and other related products that meet or exceed our customers' needs and expectations.

Everyone is responsible for product quality and is committed to ensuring the effectiveness of the Quality Management System.

Tom Fitzmyers
Chief Executive Officer

Steve Lamson
President

WE ARE ISO 9001 REGISTERED

NIH ISO9001 REGISTERED COMPANY — UKAS QUALITY MANAGEMENT 015

Simpson Strong-Tie is an ISO 9001 registered company. ISO 9001 is an internationally-recognized quality assurance system which lets our domestic and international customers know that they can count on the consistent quality of Simpson Strong-Tie's products and services.

CORROSION RESISTANCE

Connectors are steel and will corrode and lose load-carrying capacity if exposed to ocean salt air, corrosive fire-retardant chemicals, fertilizers, or other substances that adversely affect steel.

Simpson Strong-Tie® offers two additional coating options and stainless steel products to give you special corrosion-resistant NO-EQUAL quality. In corrosive environments, especially for connectors that are not exposed to rain or periodic washing, deterioration will occur at a faster rate. The service life of galvanized connectors in a temperate marine environment can be greatly improved by homeowner maintenance. Fasteners of comparable material should be used to install the product. Contact your Simpson representative for product availability, ordering information and lead times. ***Preservative pressure-treated and fire-retardant treated wood can be caustic to zinc coated (or galvanized) steel and can cause the metal to deteriorate. Galvanized connectors should not be placed in contact with treated wood unless the treated wood is adequately verified to be suitable for such contact. Some wood treatments may not accelerate metal deterioration. See wood material supplier for specific recommendations.***

HDG HOT-DIP GALVANIZED

Products are hot-dip galvanized after fabrication. The coating weight increases with material thickness. Hot-dip galvanizing is available for many products, and require galvanized fasteners.

ZMAX TRIPLE ZINC COATING

(G185) 3 times the zinc of our standard galvanized products! Z-MAX meets all catalog load specifications listed for the regular products and all published building code reports. Require galvanized fasteners.

SST300 STAINLESS STEEL

Connectors are manufactured from Type 316L stainless steel, and provide greater durability against corrosion. Stainless steel nails should be used with stainless steel products, and are available from Simpson.

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IMPORTANT INFORMATION & GENERAL NOTES

CODES

Simpson Strong-Tie® connectors are recognized by most code agencies. Agencies that recognize some or all of our products include ICBO, BOCA, SBCCI; the City of Los Angeles, California; State of Wisconsin; and Dade County, Florida.

The allowable loads in this catalog comply with the 1997 National Design Specifications. Call Simpson Strong-Tie or visit the code agencies' web sites for the current evaluation reports if recognition or approval is to be based on the report. Specific reductions and restrictions may be required by other code agencies.

BOCA—Building Officials and Code Administrators International, Inc: 97-9; NER-209, 393, 413, 421, 422, 432, 443, 469, 499.

ICBO—International Conference of Building Officials: Nos. 1211, 3631, 4935, 4945, 5090, 5117, 5256, 5268, 5279, 5313, 5328, 5349, 5357, 5485, 5649, and NER-209, 393, 413, 421, 422, 432, 443, 469, 499.

SBCCI—Southern Building Code Congress International, Inc: Nos. 94145, 9603, 9706, NER-209, 393, 413, 421, 422, 432, 443, 469, 499.

City of Los Angeles, CA—Nos. RR 22086, 24818, 24682, 24947, 24949, 25064, 25074, 25076, 25119, 25120, 25149, 25158, 25185, 25236, 25248, 25279, 25280, 25281, 25293, 25300, 25318.

Dade County, FL—Nos. 96-0730.04, 96-1126.11, 97-0107.05, 98-0608.09, 98-0724.06, 99-0121.04, 99-0623.04, 99-0713.05.

State of Wisconsin—No. 940017-N.

TERMS AND CONDITIONS OF SALE

PRODUCT USE

Products in this catalog are designed and manufactured for the specific purposes shown, and should not be used with other connectors not approved by a qualified designer. Modifications to products or changes in installation procedures should only be made by a qualified designer. The performance of such modified products or altered installation procedures is the sole responsibility of the designer.

INDEMNITY

Customers modifying products or installation procedures, or designing non-catalog products for fabrication by Simpson Strong-Tie Co., Inc. shall, regardless of specific instructions to the user, indemnify, defend, and hold harmless Simpson Strong-Tie Co., Inc. for any and all claimed loss or damage occasioned in whole or in part by non-catalog or modified products.

NON-CATALOG AND MODIFIED PRODUCTS

Consult Simpson Strong-Tie Co., Inc. for applications requiring modified products, or for connectors for use in hostile environments, with excessive wood shrinkage, or with abnormal loading or erection requirements.

Non-catalog products must be designed by the customer and will be fabricated by Simpson Strong-Tie in accordance with customer specifications.

Simpson Strong-Tie cannot and does not make any representations regarding the suitability of use or load-carrying capacities of non-catalog products. Simpson Strong-Tie provides no warranty, express or implied, on non-catalog products.

Any party modifying Simpson Strong-Tie products must provide the installer with specific instructions on the modified product's specifications, installation, and use.

LIMITED WARRANTY

Simpson Strong-Tie Co., Inc. warrants catalog products to be free from defects in material or manufacturing. Simpson Strong-Tie Co., Inc. products are further warranted for adequacy of design when used in accordance with design limits in this catalog, and properly specified and installed. This warranty does not apply to uses not in compliance with specific applications and installation procedures set forth in this catalog, or to non-catalog or modified products.

Simpson Strong-Tie connectors are designed to enable structures to resist the movement, stress, and loading that results from impact events such as earthquakes and high velocity winds. Properly-installed Simpson Strong-Tie connectors will perform in accordance with the specifications set forth in the applicable Simpson catalog.

Due to the particular characteristics of the impact event, the specific design and location of the structure, the building materials used, the quality of construction, and the condition of the soils involved, damage may nonetheless result to a structure and its contents even if the loads resulting from the impact event do not exceed Simpson catalog specifications and Simpson Strong-Tie connectors are properly installed in accordance with applicable building codes.

All warranty obligations of Simpson Strong-Tie Co., Inc. shall be limited, at the discretion of Simpson Strong-Tie Co., Inc., to repair or replacement of the defective part. These remedies shall constitute Simpson Strong-Tie Co., Inc.'s sole obligation and sole remedy of purchaser under this warranty. In no event will Simpson Strong-Tie Co., Inc. be responsible for incidental, consequential, or special loss or damage, however caused.

This warranty is expressly in lieu of all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose, all such other warranties being hereby expressly excluded.

ALLOWABLE LOAD DETERMINATION METHODS

The allowable load is the maximum static design load that can be imposed on a connection.

Allowable loads in this catalog are determined using calculations and one or more of the following methods: static load tests in wood assemblies; static load tests in steel jigs; static load tests of products embedded in concrete or masonry. Some tests include only portions of a product such as purlin anchor tests—only the embedded hook is tested, not the nailed or bolted section of the strap which is calculated. Testing to determine allowable loads in this catalog is not done on connection systems in buildings. Testing is conducted under the supervision of an independent laboratory. Some loads are determined using calculations without testing.

For detailed information regarding how Simpson tests specific products, contact your Simpson representative or contact the company.

DEFINITIONS

Terms and their definitions as they are used in this catalog:

Average Ultimate (AVG ULT): The average of the highest (ultimate) loads that are achieved when Simpson static load tests one of its products to destruction. Simpson static tests a product three or more times with similar test configurations to obtain ultimate load measurements. The average ultimate load is listed for only one configuration and direction in tables that show multiple configurations, load directions or fastener combinations. *Average Ultimate load should not be used for design purposes.*

Allowable Load: The maximum static design load that can be imposed on a connection. Loads in excess of the allowable load can cause unacceptable deformations.

Deflection: The distance a point, defined at test set-up, moves when a load is applied to a product.

Design Load: The calculated maximum load imposed on a connection during the life of a structure. There may be multiple design loads acting in different directions (up, down, lateral, perpendicular, etc.) imposed on a connection.

IMPORTANT INFORMATION & GENERAL NOTES

These notes are provided to ensure proper installation of Simpson Strong-Tie® Co, Inc. products and must be followed fully.

a. Simpson Strong-Tie Co., Inc. reserves the right to change specifications, designs, and models without notice or liability for such changes.

b. Steel used for each Simpson product is individually selected based on the product's steel specifications, including strength, thickness, formability, finish, and weldability. Contact factory for steel information on specific products.

c. Unless otherwise noted, dimensions are in inches, loads are in pounds.

d. Unless otherwise noted, bolts and nails cannot be combined. 8d, 10d, and 16d specify common nails.

e. Unless otherwise noted, allowable loads are for Douglas Fir-Larch under continuously dry conditions. Allowable loads for other species or conditions must be adjusted according to the code.

Species	$F_{c\perp}$	Specific Gravity
Douglas Fir-Larch (DFL)	625 psi	0.50
Southern Pine (SP)	565 psi	0.55
Spruce-Pine-Fir(SPF)	425 psi	0.42
Hem Fir	405 psi	0.43
Glulam	560 psi	0.50
LVL	700 psi	0.50
TimberStrand® (LSL) ($E=1.3\times10^6$)	680 psi	0.50
TimberStrand® (LSL) ($E\geq1.5\times10^6$)	750 psi	0.50
Parallam® (PSL)	750 psi	0.50

f. For face-mount hangers and straight straps, use 0.86 of the table loads for Spruce-Pine-Fir.

g. Simpson Strong-Tie Co., Inc. will manufacture non-catalog products provided prior approval is obtained and an engineering drawing is included with the order. Steel specified on the drawings as ⅛", 3⁄16", and ¼" will be 11 gauge (0.117"), 7 ga (0.179"), and 3 gauge (0.239"), respectively. The minimum yield and tensile strengths are 33 ksi and 52 ksi, respectively.

h. All references to bolts or machine bolts (MBs) are for structural quality through bolts equal to or better than American Society of Testing and Materials ASTM Standard A 307, Grade A.

i. Unless otherwise noted, bending steel in the field may cause fractures at the bend line. Fractured steel will not carry load and must be replaced.

j. A fastener that splits the wood will not take the design load. Evaluate splits to determine if the connection will perform as required. Dry wood may split more easily and should be evaluated as required. If wood tends to split, consider pre-boring holes with diameters not exceeding .75 of the nail diameter (1997 National Design Specification, 2.1.3.1.).

k. Wood shrinks and expands as it loses and gains moisture, particularly perpendicular to its grain. Take wood shrinkage into account when designing and installing connections. Simpson manufactures products to fit common dry lumber dimensions.If you need a connector with dimensions other than those listed in this catalog, Simpson may be able to vary connector dimensions; contact the factory. The effects of wood shrinkage are increased in multiple lumber connections, such as floor-to-floor installations. This may result in the vertical rod nuts becoming loose, requiring post-installation tightening.

l. Top flange hangers may cause unevenness. Possible remedies should be evaluated by a professional and include using a face mount hanger, and routering the beam or cutting the subfloor to accommodate the top flange thickness.

m. Built-up lumber (multiple members) must be fastened together to act as one unit to resist the applied load.

n. Do Not Overload. Do not exceed catalog allowable loads, which would jeopardize the connection.

o. Some model configurations may differ from those shown in this catalog. Contact factory for details.

p. **Hanger Options**—some combinations of hanger options have not been evaluated. In some cases, combinations of these options may not be installable. Horizontal loads induced by sloped joists must be resisted by other members in the structural system. **A qualified designer must always evaluate each connection, including carried and carrying member limitations, before specifying the product.**
Fill all fastener holes with fastener types specified in the tables, unless otherwise noted. Hanger configurations, height, and fastener schedules may vary from the tables depending on joist size, skew and slope. See the allowable table load for the non-modified hanger, and adjust as indicated. Gauge may vary from that specified depending on the manufacturing process used. U and W hangers normally have single stirrups; occasionally, the seat may be welded.
B, GLT, HGLT, HW, LBV, W and WNP hangers for sloped seat installations are assumed backed. To order a custom non-backed hanger, contact the factory.

q. Simpson will calculate the net height for a sloped seat. The customer must provide the H1 joist height before slope.

INSTRUCTIONS TO THE INSTALLER

a. All specified fasteners must be installed according to the instructions in this catalog. Incorrect fastener quantity, size, type, material, or finish may cause the connection to fail. 16d fasteners are common nails (8 ga x 3½") and cannot be replaced with 16d sinkers (9 ga x 3¼") unless otherwise specified.

b. Bolt holes shall be a minimum of 1⁄32" and a maximum of 1⁄16" larger than the bolt diameter (per the 1997 NDS, section 8.1.2.1.).

c. Install all specified fasteners before loading the connection.

d. Use proper safety equipment.

e. Welding galvanized steel may produce harmful fumes; follow proper welding procedures and safety precautions. Welding should be in accordance with A.W.S. standards.

f. Pneumatic or powder-actuated fasteners may deflect and injure the operator or others. Nail tools may be used to install connectors, provided the correct quantity and type of nails are properly installed in the nail holes. Tools with nail hole-locating mechanisms should be used. Follow the manufacturer's instructions and use the appropriate safety equipment.

g. Joist shall bear completely on the connector seat, and the gap between the joist end and the header shall not exceed ⅛".

h. For holdowns installed on the mudsill, anchor bolt nuts should be finger-tight plus ⅓ to ½ turn with a wrench, with consideration given to possible future wood shrinkage. Care should be taken to not over-torque the nut, which may lead to premature anchor bolt failure.

INSTRUCTIONS TO THE DESIGNER

a. Allowable loads for hangers are determined by a static load test resulting in not more than a ⅛" deflection of the joist relative to the header.

b. Allowable loads for more than one direction for a single connection cannot be added together. A design load which can be divided into components in the directions given must be evaluated as follows:
Design Shear/Allowable Shear + Design Tension/Allowable Tension ≤ 1.0.

c. Loads are based on the 1997 National Design Specifications (NDS), unless otherwise specified. Other code agencies may use different allowable loads.

d. Duration of load adjustments as specified by the code are as follows:
"FLOOR" and "DOWN" (100) — no increase for duration of load.
"SNOW" (115) — 115% of design load for 2 month duration of load.
"NON-SNOW" (125)— 125% of design load for 7 day duration of load.
"EARTHQUAKE/WIND" (133 and 160) — 133% and 160% of design load for earthquake/wind loading.
Other load values, based on duration of applied loads or special conditions, may govern in certain geographic areas and may be used where applicable, up to the maximum table load. Load duration increases are only applied if the factor of safety can be maintained.

e. Wood shear is not considered in the loads given; reduce allowable loads when wood shear is limiting. Glulam 145 psi, LVL 285 psi, LSL 285 psi, PSL 290 psi; $E=1.3\times10^6$ psi.

f. Simpson Strong-Tie Co., Inc. strongly recommends the following addition to construction drawings and specifications:
"Simpson Strong-Tie connectors are specifically required to meet the structural calculations of plan. Before substituting another brand, confirm load capacity based on reliable published testing data or calculations. The Engineer/Designer of Record is required to evaluate and give written approval for substitution prior to installation."

g. Verify that the dimensions of the supporting member are sufficient to receive the specified fasteners.

h. Some catalog illustrations show connections that could cause cross-grain tension or bending of the wood during loading if not sufficiently reinforced. In this case, mechanical reinforcement should be considered.

i. Simpson will provide code testing data on all products that have been code tested upon request.

j. The allowable loads published in this catalog are for use when utilizing the traditional Allowable Stress Design methodology. A method for using Load and Resistance Factor Design (LRFD) for wood has recently been published in AF&PA/ASCE 16-95. When designing with LRFD, reference lateral resistances must be used. Contact Simpson for reference lateral resistances of products listed in this catalog. For more information, refer to the American Forest and Paper Association "Guideline to LRFD for Pre-engineered Metal Connectors for Wood Construction" and ASCE 16-95. The "Guideline" contains a soft-conversion procedure that can be used to derive reference lateral resistances.

k. Simpson recommends that the hanger height be 60% of the joist height for stability.

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SCREWS

See the Anchoring Catalog for full Titen Screw details, and see Multi-Ply Wood Trusses, page 111 for additional information.

The Simpson Strong-Drive® wood screw has a hex washer head for easy driving with a socket wrench. The built-in reamer and type 17 tip cuts a hole to allow installation without predrilling. Predrilling may be necessary depending on the type and moisture content of wood. Refer to the 1997 NDS Section 11.1.2 for drill diameter requirements.

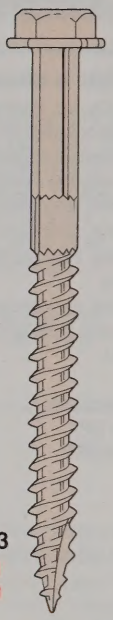
CODES: ICBO 5268; City of L.A. RR 25281 (SDS).



Identification on all screw heads (SDS¼X3 shown)



Titen Hex Head



SDS¼X3
US Patent 6,109,850

Titen Screw Anchors for concrete and masonry.

Size (in)	Embed. Depth (in)	Spacing (in)	Edge Dist (in)	Tension Loads (lbs)	Shear Loads (lbs)
				$f'_c \geq 2000$ psi	$f'_c \geq 2000$ psi
				Allowable Load	Allowable Load
3/16	1	2¼	1⅛	125	255
3/16	1½	2¼	1⅛	305	415
¼	1	3	1½	145	225
¼	1½	3	1½	365	400

Model No.	Description	Metric Equivalent (mm)	Finish[3]	Fasteners per Carton	Doug Fir-Larch/Southern Pine Allowable Loads[1]				Spruce-Pine-Fir Allowable Loads[1]			
					Wood to Wood (DF to DF)	Light Gauge		3 Gauge	Wood to Wood (SPF to SPF)	Light Gauge		3 Gauge
						Shear (100)	Gauge	Shear (100)		Shear (100)	Gauge	Shear (100)
SDS¼ x 1½"	¼ x 1½" Wood screw	6.1 x 38	ZINC	1500	114	268	10	290	82	231	10	251
SDS¼ x 1¾"	¼ x 1¾" Wood screw	6.1 x 44.5	ZINC	1400	142	303	10	327	103	261	10	284
SDS¼ x 2"	¼ x 2" Wood screw	6.1 x 50.8	ZINC	1300	171	303	10	327	123	261	10	284
SDS¼ x 2½"	¼ x 2½" Wood screw	6.1 x 63.5	ZINC	1100	193	303	10	327	139	261	10	284
SDS¼ x 3"	¼ x 3" Wood screw	6.1 x 76.2	ZINC	950	193	303	10	327	139	261	10	284
SDS¼ x 3½"	¼ x 3½" Wood screw	6.1 x 88.9	ZINC	900	193	303	10	327	139	261	10	284
SDS¼ x 4½"	¼ x 4½" Wood screw	6.1 x 114.3	ZINC	800	193	303	10	327	139	261	10	284
SDS¼ x 6"	¼ x 6" Wood screw	6.1 x 152.4	ZINC	600	193	303	10	327	139	261	10	284

1. Allowable loads are based on the 1997 NDS. Adjustments are made for use with metal side plates, Fes = 45 ksi. Loads under light gauge are for gauges listed through 22 gauge. Allowable loads for gauges not indicated must be calculated according to the code. Contact factory for more details.
2. Metric equivalents are listed by Diameter x Length.
3. Zinc = Yellow zinc dichromate.
4. SDS screws install best with a low speed ½" right angle drill with a ⅜" hex head driver.
5. Wood-to-wood applications are based on a wood thickness of ½" side member. For other wood species and thickness, reference ICBO 5268.
6. These loads are for 100% duration. They may be increased per the NDS.

NAILING IDENTIFICATION



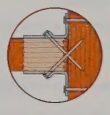
Speed Prongs
Used to temporarily position and secure the connector for easier and faster installation.



Positive Angle Nailing (PAN)
Provided when wood splitting may occur, and to speed installation.



Dome Nailing
This feature guides the nail into the joist and header at a 45° angle.
U.S. Patent 5,603,580



Double Shear Nailing
The nail is installed into the joist and header, distributing the load through two points on each joist nail for greater strength.
U.S. Patent 4,480,941; Canada Patent 1,193,418



Hexagonal Holes
Used for concrete or masonry screw applications.



Obround Holes
Used to provide easier nailing access in tight locations.
Fasteners may be installed at an angle.



Diamond Holes
Optional holes to temporarily secure connectors to the member during installation.



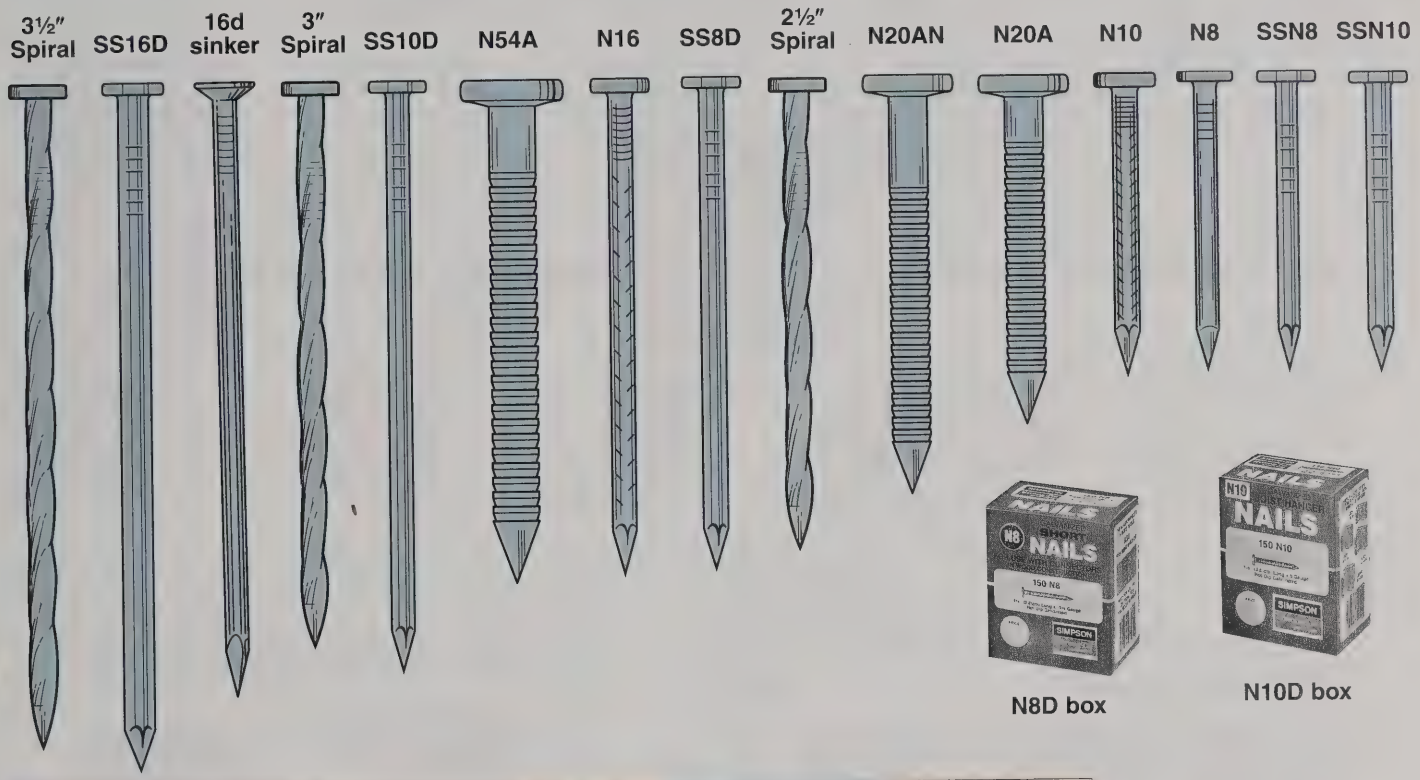
Triangle Holes
Provided on some products in addition to round holes. Round and triangle holes must be filled to achieve the published maximum load value.

Strong-Tie nails and structural fasteners have been developed as the optimum fasteners for connector products. Special lengths afford economy of purchase and installation, and depth compatibility with framing members. Nail specifications include head size, thickness, steel and shank design, and point configuration to ensure conformity to published values.

For pneumatic nail use, see Instructions to the Installer, page 7.

COMPARABLE SIZES: SSN8 = N8; SS8D = 8d common; SSN10 = N10; SS10D = 10d common; SS16D = 16d common

TO ORDER: Display Packages—available for N8D and N10D nails. To order, specify:
N8D MSTR CTN—25 display packs of 150 N8 nails.
N8D5 MST CTN— 6 display packs of 600 N8D nails
N10D MSTR CTN—25 display packs of 150 N10 nails.
N10D5 MSTR CTN—6 display packs of 600 N10 nails
50lb Bulk Boxes—available for N8, N10 and N16 nails.



N8D box

N10D box

Model No.	Description	Metric Equivalent (mm)	Finish [3]	Fasteners per CWT	Doug Fir-Larch/So. Pine Allowable Loads[1]			Spruce-Pine-Fir Allowable Loads[1]		
					Light Gauge		3 Gauge	Light Gauge		3 Gauge
					Shear (100)	Gauge	Shear (100)	Shear (100)	Gauge	Shear (100)
N8	(8d) 10¼ ga x 1½" Smooth shank	3.3 x 38.1	HDG	15200	86	14	105	74	16	90
SSN8	(8d) 0.131 x 1½" Smooth shank	3.3 x 38.1	SS	15200	86	14	105	74	16	90
SS8D	(8d) 0.131 x 2½" Smooth shank	3.3 x 63.5	SS	9400	92	20	131	80	18	112
N10	(10d) 9 ga x 1½" Smooth shank	3.8 x 38.1	HDG	11900	92	14	112	79	16	97
SSN10	(10d) 0.148 x 1½" Smooth shank	3.8 x 38.1	SS	12200	92	14	112	79	16	97
SS10D	(10d) 0.148 x 3" Smooth shank	3.8 x 76.2	SS	6700	112	18	158	96	20	136
N16	(16d) 8 ga x 2½" Smooth shank	4.1 x 63.5	BRIGHT	6300	134	18	187	115	20	163
SS16D	(16d) 0.162 x 3½" Smooth shank	4.1 x 88.9	SS	4400	134	18	187	115	20	163
N20AN	(20d) 0.192 x 2⅛" Annular ring	4.9 x 54.0	BRIGHT	5500	145	14	174	125	18	152
N20A	(20d) .192 x 1¾" Annular ring	4.9 x 44.5	BRIGHT	6300	119	14	140	103	18	122
N54A	.250 x 2½" Annular ring	6.4 x 63.5	BRIGHT	2700	167	14	188	145	18	164
10d common[6]	(10d) 0.148 x 3" Smooth shank	3.8 x 76.2	BRIGHT	6700	112	18	158	96	20	136
16d sinker[6]	0.148 x 3¼" Smooth shank	3.8 x 82.6	GV	6100	112	18	158	96	20	136
12d common[6]	0.148 x 3¼" Smooth shank	3.8 x 82.6	BRIGHT	6100	112	18	158	96	20	136
16d common[6]	0.162 x 3½" Smooth shank	4.1 x 88.9	BRIGHT	4400	134	18	187	115	20	163
2½" Spiral	(8d) 0.110 x 2½" Spiral shank	2.8 x 63.5	BRIGHT	—	98	—	—	80	—	—
3" Spiral	(10d) 0.132 x 3" Spiral shank	3.4 x 76.2	BRIGHT	—	112	—	—	96	—	—
3½" Spiral	(16d) 0.152 x 3½" Spiral shank	3.9 x 88.9	BRIGHT	—	134	—	—	110	—	—

N10

Nail info on N8 and N10 nail heads

On all stainless steel nail heads

Nail Specifications

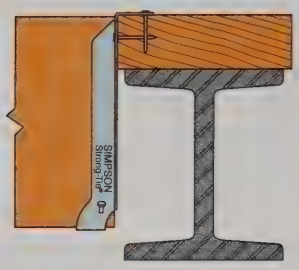
Nail Type	Wire Gauge	Diameter
(8d) Common Nail	10¼ ga	0.131
(10d) Common Nail	9 ga	0.148
(16d) Common Nail	8 ga	0.162
16d Sinker Nail	9 ga	0.148

1. Allowable loads are based on the 1997 NDS. Adjustments are made for use with metal side plates, Fes = 45 ksi. Loads under light gauge are for gauges listed through 22 gauge. Allowable loads for gauges not indicated must be calculated according to the code. Contact the factory for more details.
2. N16, N20A, N20AN and N54A fasteners may be ordered galvanized; specify EG; for example N16EG.
3. HDG = hot-dip galvanized; SS = stainless steel; Bright = no finish; GV = Green vinyl.
4. Metric equivalents are listed Diameter x Length.
5. A 16d sinker, 12d common and a 10d common have the same load value as an SS10D. A 16d common has the same load value as an SS16D.
6. **The 10d common, 12d common, 16d common, 16d sinker and spiral nails are for reference only. Simpson does not sell these nails.** All other nails are available through Simpson.

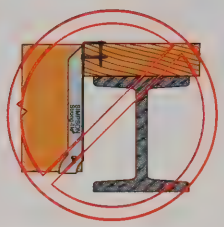
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GENERAL CONNECTOR INSTALLATION

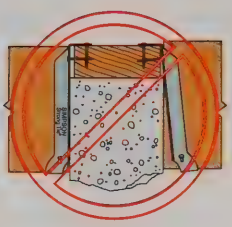
WOOD NAILERS



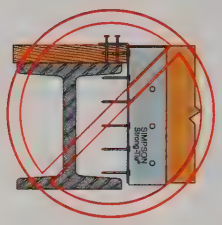
Correct Attachment



Nailer Too Wide
The loading may cause cross-grain bending. As a general rule, the maximum allowable overhang is ¼", depending on nailer thickness.



Nailer Too Narrow
A maximum mismatch of ⅛" for normal installations is allowed.



Nailer Too Thin
or the wrong hanger for the application.

TOE-NAILING

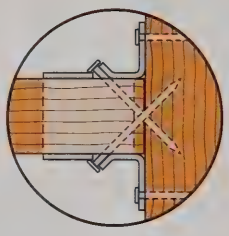
Toe nailing causes squeaks and improper hanger installations. Do not toe nail I-joists before installing top flange or face mount hangers.



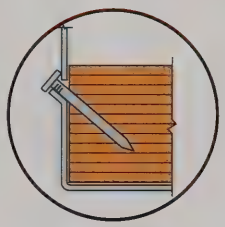
DOUBLE SHEAR NAILING

The nail is installed into joist and header, distributing load through two points on each nail for greater strength.

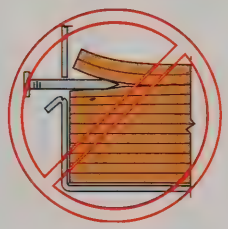
U.S. Patent 4,480,941; and 4,291,996; Canada Patent 1,193,41



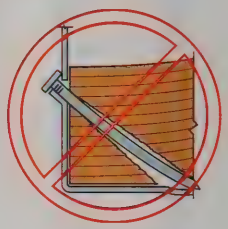
POSITIVE ANGLE NAILING



Correct Nailing
Approx. 45° angle
U.S. Patent 4,291,996

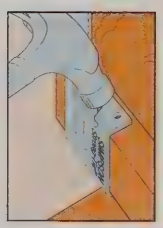


Nail at wrong angle

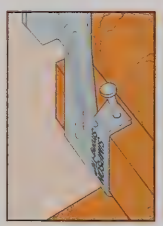


Nail too long

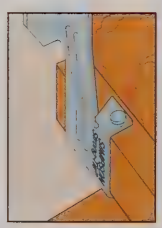
IUS, IUT & ITT INSTALLATION (VPA SIMILAR)



Bend the tab with a hammer.



Hammer the nail in at an angle (45°)to prevent the wood from splitting.

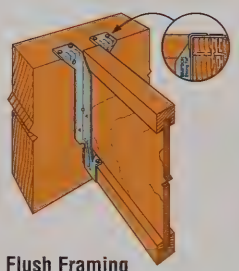


The tab is now correctly installed.

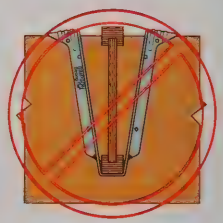


Use a 10d x 1½ nail (Simpson N10 shown)

TOP FLANGE HANGERS



Flush Framing
Top flange configuration and thickness of top flange need to be considered for flush frame conditions.

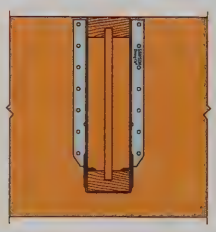


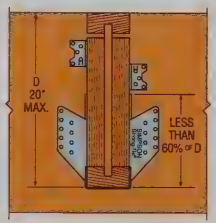
Hanger Over-Spread
If the hanger is over-spread, it can raise the I-joist above the header and may cause uneven surfaces and squeaky floors.

PREVENT ROTATION

Hangers provide some joist rotation resistance; however, additional lateral restraint may be required for deep joists.

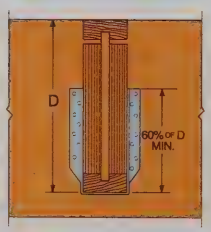
No Web Stiffener Installed
Hanger side flange supports joist top flange.

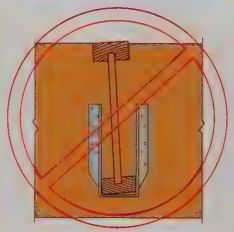




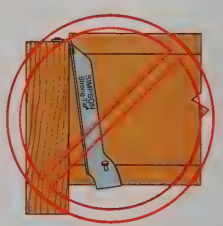
Rotation Resistance
If non-skewed hanger side flange is less than 60% of joist depth, attach staggered A34 framing anchors above the hanger.

Web Stiffener Required
Hanger side flange should be at least 60% of joist depth or potential joist rotation must be addressed.





No Web Stiffener Results in Rotation
Hanger side flange is below the joist top flange. No web stiffener results in rotation, unless restrained by other means.



Hanger Not Plumb
A hanger "kicked-out" from the header can cause uneven surfaces and squeaky floors.

GENERAL CONNECTOR INSTALLATION

WOOD I-JOISTS

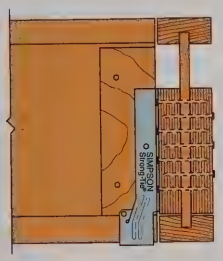
SLOPED JOISTS

Unless otherwise specified, use sloped seat hangers when slopes exceed ½:12 for bearing length of 2½" or less; ⅜:12 for bearing length between 2½ and 3½ and ¼:12 for longer bearing lengths.

MULTIPLE JOISTS

Multiple joists should be adequately connected together to act as one unit.

NAIL PATTERN



Face Mount Hanger

Solid sawn web stiffeners or backer blocks may split if a row of closely-spaced nails goes along the wood grain. Nail pattern should not split joists, backer blocks or web stiffeners. For I-joist to I-joist connections, the nails should extend through backer block and web.

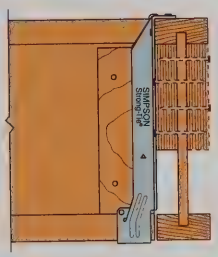
ECCENTRICALLY-LOADED JOISTS

The top flange hanger's supporting wood I-joist may require bottom flange restraining straps, blocking or directly-applied ceiling systems to prevent rotation at the hanger location.

FASTENERS

Use the correct nails. Wood may split if the nails are too large. Hanger nails into flanges should not exceed 10d common (0.148 dia), no longer than 1½". Nails into web stiffeners should not exceed 16d commons (0.162 dia.).

I-JOIST HEADERS

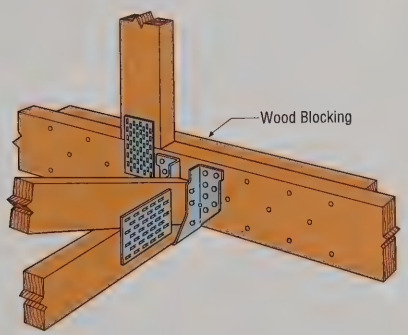


Top Flange Hanger

When supporting one I-joist from another, install backer blocks to the carrying I-joist. Check with the joist manufacturer to see if backer blocks are required on both sides.

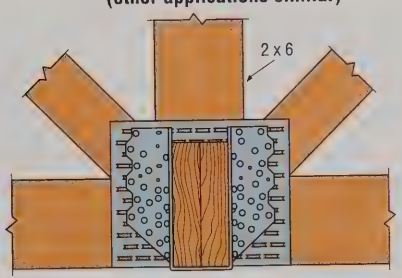
ALTERNATE INSTALLATIONS

- Block(s) should be of similar size/grade as the truss member to which it is attached. Blocking should be designed to act as one unit with the truss members.
- Block(s) should be of sufficient size to accept all carried/carrying member nails, or develop full seat bearing as specified in Simpson Strong-Tie publications.
- Truss designer is to confirm blocking size/grade, fasteners required and application.
- Fasteners used to attach the additional blocking should be independent of the truss hanger fasteners.



1 **Use of Wood Blocking to Achieve the Full Design Load Value of a Face Mount Hanger Attached to a Single Ply Carrying (Girder) Member. (Block designed by engineer of record or Truss Manufacturer)**

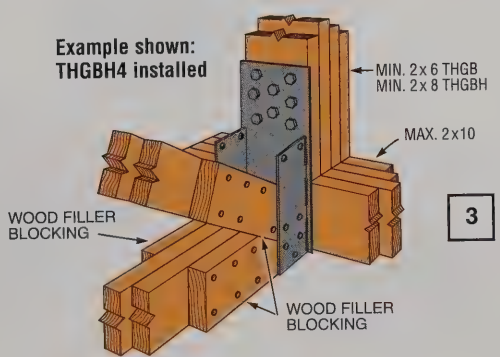
Example shown: HGUS210-2 installed on a 2x6 bottom chord (other applications similar)



2 **Connection Design to Achieve Specified Nailing of a Face Mount Hanger at a Panel Point.**

Nails located in joints formed by the intersection of wood members have no load resistance. The hanger allowable load value shall be reduced by the nail shear value for each header nail less than the specified quantity.

Example shown: THGBH4 installed



3 **Use of Wood Filler Blocking for Carried Member Width Less than Hanger Width. (Block designed by engineer of record or Truss Manufacturer)**

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LMA/MASB/MAS/MAB/MA MUDSILL ANCHORS

See page 13 for additional product illustrations.

The LMA offers a higher lateral load capacity in a lighter gauge. Two sizes provide an economical replacement for ½" diameter sill plate bolts.

The MASB is designed for installation on concrete masonry units, and to meet the requirements for BOCA Building Code Section 2305.16.

MAS—For slab or stemwall construction. Fast for the finisher—install before pouring concrete by nailing into form, or insert into concrete after pour. Finish up to the edge of slab. No anchor bolts to hand trowel around, no nuts or washers to lose. Fast for the framer—eliminates plate drilling and mislocated anchor bolts.

MAB—Anchors mudsill to concrete block, poured walls or slab foundation.

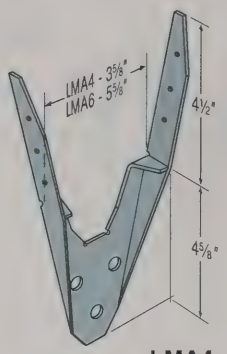
MATERIAL: MASB, MAS, MA—16 gauge; LMA, MAB—18 gauge

FINISH: Galvanized. Some products available in Z-MAX; see Corrosion Resistance, page 5.

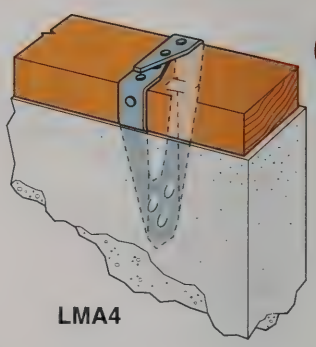
INSTALLATION: • Use all specified fasteners. See General Notes.

- Not for use where (a) a horizontal cold joint exists between the slab and foundation wall or footing beneath, unless provisions are made to transfer the load, or (b) anchors are installed in slabs poured over foundation walls formed of concrete block. All grout and concrete must have a minimum of f'_C 2000 psi.
- MASB—First fill CMU cell with concrete grout. Place MASB into the grouted cell, and adjust into position. Attach mudsill to anchor after the concrete cures.
- MAB—When used in monolithic slab or stemwall construction, prior to installation, spread the MAB legs to accommodate mudsill. Immediately after pouring and screeding, insert into the concrete or grout. Attach the mudsill to the anchor with 10dx1½" nails after the concrete cures. When installed in grouted concrete block or solid pour for a center hole installation, drill a 3/4" hole through the mudsill. Wrap MAB straps around the mudsill and install 10dx1½" nails.

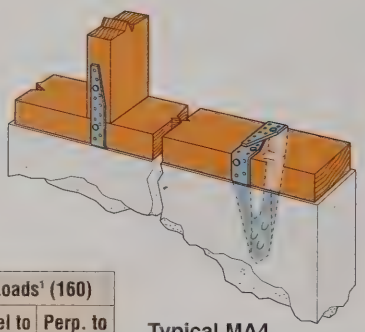
CODES: BOCA, ICBO, SBCCI NER-209, NER-393, NER-443; ICBO 5357; City of L.A. RR 25149 (MA); BOCA 97-9 (MASB).



LMA4
(LMA6 similar)

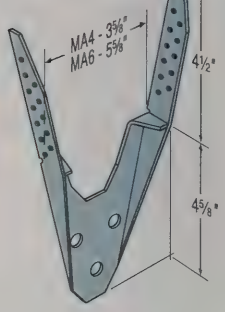


LMA4



Typical MA4 and MA6 Installation

MA4
(MA6 similar)



Model No.	Sill Size	Fasteners		Uplift Avg Ult	Allowable Loads[1] (133)			Allowable Loads[1] (160)		
		Sides Total	Top		Uplift[2]	Parallel to Plate (F_1)	Perp to Plate (F_2)	Uplift[2]	Parallel to Plate (F_1)	Perp. to Plate (F_2)
MAS	2x4,6	2-10dx1½	4-10dx1½	3360	1005	720	480	1005	815	575
MASB	2x4,6,8	2-10dx1½	6-10dx1½	—	130	930	410	130	930	410
LMA4	2x4	2-10dx1½	4-10dx1½	2831	905	675	520	905	675	520
	3x4	4-10dx1½	2-10dx1½	2831	905	675	520	905	675	520
LMA6	2x6	2-10dx1½	4-10dx1½	2831	905	730	650	905	825	650
	3x6	4-10dx1½	4-10dx1½	3697	1110	825	650	1110	825	650
MA4	2x4	2-10dx1½	2-10dx1½	3065	830	480	430	830	575	430
	3x4	4-10dx1½	2-10dx1½	2977	915	680	430	915	680	430
MA6	2x6	2-10dx1½	4-10dx1½	2977	915	680	430	915	680	430
	3x6	4-10dx1½	4-10dx1½	3083	965	680	430	915	680	430
MAB15	2x4,6	2-10dx1½	4-10dx1½	1867	565	500	500	565	500	500
MAB23	2x4,6	2-10dx1½	4-10dx1½	1867	565	500	500	565	500	500

1. Loads may not be increased for short-term loading.
2. For uplift loads, provide attachment from mudsill to building's structural components to prevent cross-grain bending.
3. MAS installed with 1 leg attached to stud has loads of 435 lbs (uplift), 700 lbs (parallel to plate) and 240 lbs (perp. to plate).
4. MASB installed with 1 leg attached to stud has load of 960 lbs (parallel to plate) and 360 lbs (perpendicular to plate).
5. MA installed attached to the stud has a perpendicular load of 670 lbs. Parallel loads as listed. For reduced uplift loads, contact Simpson.

GH GIRDER HANGERS

A girder-to-foundation wall connection.

MATERIAL: 12 gauge

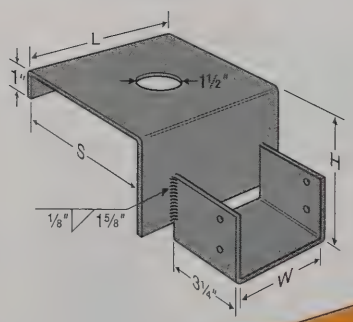
FINISH: Simpson gray paint

INSTALLATION: • Use all specified fasteners. See General Notes.

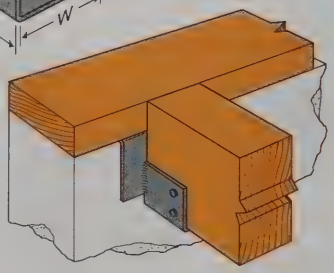
- Insert four 16d commons into girder.
- H dimension assumes 2x sill, when using a larger sill such as 3x, specify H.
- 1½" clearance hole accommodates rebar or anchor. This is not required.

OPTIONS: For skewed and saddle hangers, see Hanger Options on page 141. Contact Simpson for other sizes available.

CODES: BOCA, ICBO, SBCCI NER-443. City of L.A. RR 25149.



GH



Typical GH Installation

Model No.	Girder	Dimensions				Avg Ult	Allowable Loads	
		W	L	H	S		Floor (100)	Roof (125)
GH46-6	4x6	3⁹⁄₁₆	6	4	6¹⁄₁₆	12167	2000	2000
GH46-8	4x6	3⁹⁄₁₆	6	4	8¹⁄₁₆	12167	2000	2000
GH48-6	4x8	3⁹⁄₁₆	6	6	6¹⁄₁₆	12167	2000	2000
GH48-8	4x8	3⁹⁄₁₆	6	6	8¹⁄₁₆	12167	2000	2000
GH66-6	6x6	5½	8	4	6¹⁄₁₆	19167	4000	4000
GH66-8	6x6	5½	8	4	8¹⁄₁₆	19167	4000	4000
GH68-6	6x8	5½	8	6	6¹⁄₁₆	19167	4000	4000
GH68-8	6x8	5½	8	6	8¹⁄₁₆	19167	4000	4000

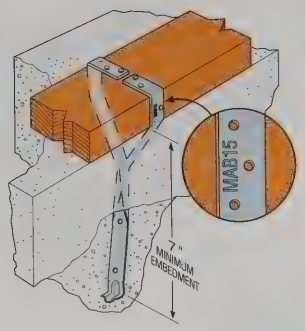
1. Loads may not be increased for short-term loading.
2. A mudsill on top of the GH is required to achieve the table loads.

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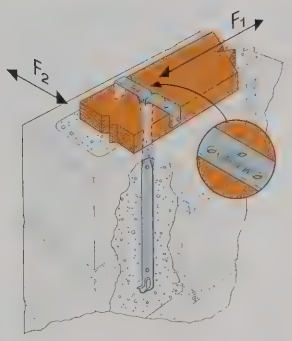
Anchor Spacing

Model No.	O.C. Spacing to replace ½" Anchor Bolt 6' O.C.		O.C. Spacing to replace ⅝" Anchor Bolt 6' O.C.	
	(133)	(160)	(133)	(160)
LMA4	5'	4'	3½'	3'
LMA6	5½'	5'	3½'	3½'
MA4	3½'	3½'	2½'	2½'
MA6	5'	4'	3½'	3'
MAB	3½'	3'	2½'	2'
MAS	5'	5'	3½'	3½'
MASB[2,3]	6'	6'	4' 10"	4' 10"

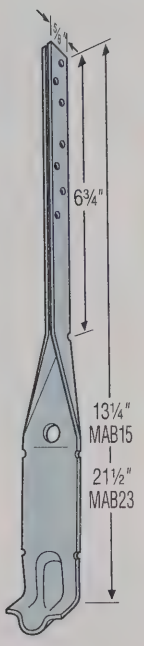
1. Place anchors not more than 1' from the end of each sill.
2. Spacing is based on parallel to plate load direction only.
3. For areas under BOCA Building Code Sec. 2305.17, spacing for 1/2" anchor bolt may be increased to 8' o.c.



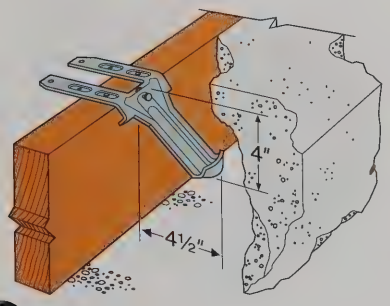
Typical MAB15 Installation in Concrete (MAB23 similar, with 15 minimum embedment)



Typical MAB23 Installation in Concrete Block (MAB15 similar) MAB23 provides a two block embedment, if required by the local code jurisdiction.

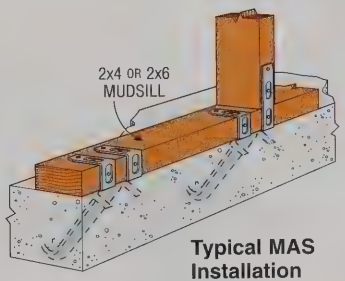


MAB

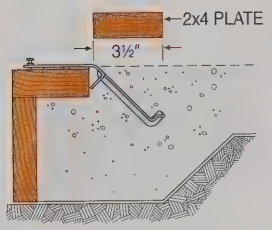


Typical MAS Installation

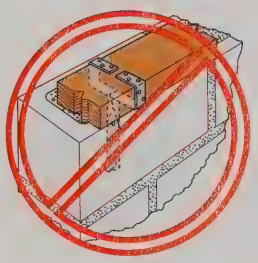
US. Patent 4,413,456



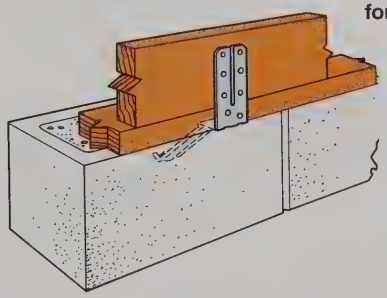
Typical MAS Installation



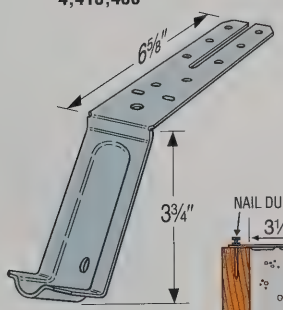
Alternate MAS Installation for Brick Ledges



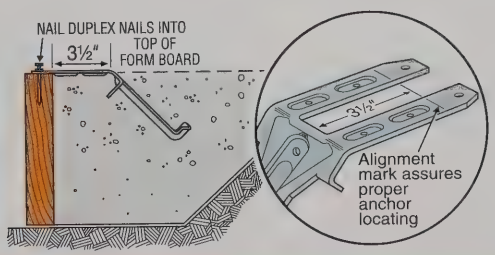
MAB Misinstallation (MAB straps must be separated before the concrete is poured)



MASB Rim Joist Installation

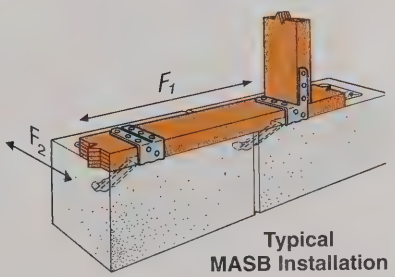


MASB



Alternate Installation

Attach MAS 3½ from inside of form. After concrete cures, remove nails and bend straps up 90 . Place mudsill on concrete and nail MAS over mudsill.



Typical MASB Installation

WT WEDGE FORM TIES

Especially designed for low foundation wall applications. ⅝" wide formed "V" design for rigidity allows accurate form spacing and support.

MATERIAL: Wedges—14 gauge, WT—18 gauge

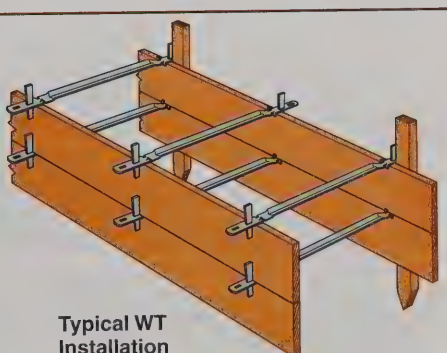
FINISH: Galvanized

INSTALLATION: • Use two 3½" long wedges for each tie.
- Not recommended for wall pours greater than 4' high.
- Fits 1" or 2" nominal form lumber.
- Wall thickness from 6" to 12".
- Request technical bulletin T-WT2 for recommended spacing

Model No	Wall Thickness
WT6	6
WT8	8
WT10	10
WT12	12



Order wedges separately. Specify W1.



Typical WT Installation

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UFP UNIVERSAL FOUNDATION PLATE

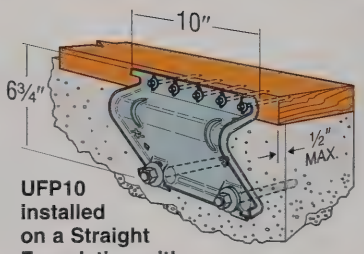
The UFP10 Retrofit Foundation Plate cuts installation time in half. Designed to connect when the mudsill is offset from the foundation up to 2½" or extended beyond the foundation up to ½".

The UFP may be used in place of the FA, HFA and FAP connectors

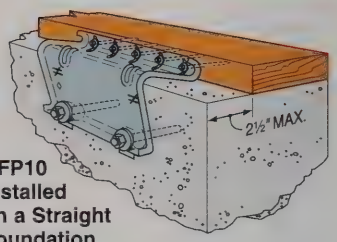
MATERIAL: 14 gauge. **FINISH**: Galvanized

INSTALLATION: • Use all specified fasteners; see General Notes.
- Loads are based on Simpson's SDSX3 screw's allowable shear values, which are supplied with the UFP10.
- Alternate lag screws will not achieve published loads.
- See Epoxy-Tie™ Anchoring Systems and RFB Retrofit Bolt for tested, load-rated epoxies and retrofit bolts.

CODES: ICBO 5313; City of L.A. RR 25281.

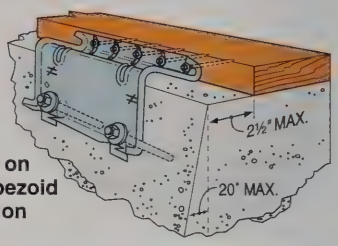


UFP10 installed on a Straight Foundation with ½" Offset Mudsill



UFP10 installed on a Straight Foundation

U.S. Patent 5,732,519



UFP10 installed on on a Trapezoid Foundation

Model No.	Max. Spacing to replace Anchor Bolt ½" or ⅝" dia.	Fasteners			Allowable Load Parallel to Plate (133)
		Anchor Bolt Qty	Anchor Bolt Dia	Plate	
UFP10-SDS3	6'	2	½"	5-SDS¼X3	1340

1. Allowable loads have been increased 33% for earthquake or wind loading, with no further increase allowed. Reduce where other load durations apply.
2. The retrofit bolt RFB#4X7 with Epoxy-Tie embedded 4¼" or equivalent ½" x 4¼" mechanical anchor bolt embedded 2¼" may be used for the anchoring system.
3. Each anchor bolt requires a standard cut washer.

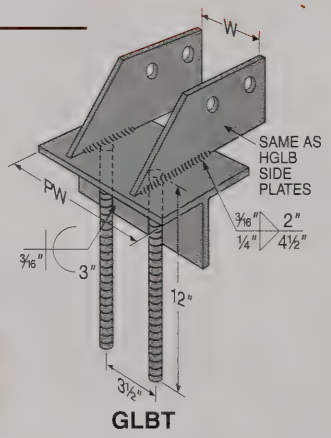
GLB/HGLB/GLBT BEAM SEATS

FINISH: Simpson gray paint

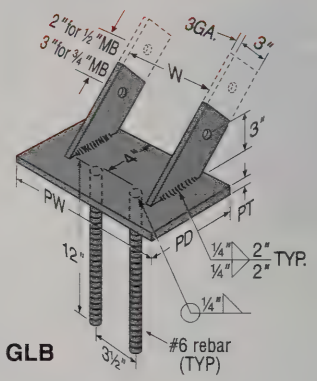
INSTALLATION: • Use all specified fasteners. See General Notes.
- Bolt holes shall be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter (per the 1997 NDS, section 8.1.2.1.).
- Check the rebar spacing requirements on all installations.

OPTIONS: • Sawn timber and other sizes may be ordered by specifying special dimensions; use the letter designations shown on the illustrations.
- Specify if two-bolt GLB model is desired; see illustration.

CODES: ICBO 1211, City of L.A. RR 22086.



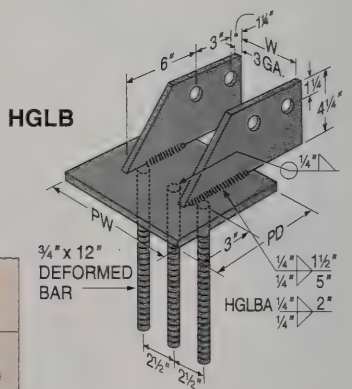
GLBT



GLB

Model No.	Dimensions				Bolts		Allowable Bearing Loads (100)		
	W	PD	PW	PT	Qty	Dia	Masonry @ 188 psi	Masonry @ 375 psi	Concrete[1]
GLB5A	5¼	5	7	3 ga	1	½	4935	9845	11530
GLB5B	5¼	6	7	⅜	1	½	5920	11810	13840
GLB5C	5¼	7	7	⅜	1	½	6910	13780	16145
GLB5D	5¼	8	7	⅜	1	½	7900	15750	18450
GLB7A	6⅞	5	9	3 ga	1	¾	6460	12890	15190
GLB7B	6⅞	6	9	⅜	1	¾	7755	15470	18225
GLB7C	6⅞	7	9	⅜	1	¾	9050	18045	21260
GLB7D	6⅞	8	9	⅜	1	¾	10340	20625	24300

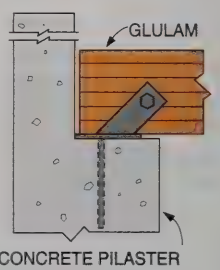
1. Allowable concrete bearing values are based on the allowable bearing of the wood member on the steel plate at 450 psi.



HGLB

Model No.	Dimensions				Bolts		Allowable Bearing Loads						Allowable Horizontal Bolt Loads[3,4]	
	W Range[5]	PD	PW	PT	Qty	Dia	Masonry @188 psi[1]	Masonry @ 375 psi[1]	On Concrete With Glulam Width[2] 5⅛	6¾	8¾	10¾	(133)	(160)
HGLBA	3¼ to 9	5	10	⅜	2	¾	9400	18750	11530	15190	19690	—	8260	9910
HGLBB	3¼ to 9	6	10	⅜	2	¾	11280	22500	13835	18225	23625	—	8260	9910
HGLBC	3¼ to 9	7	10	⅜	2	¾	13160	26250	16140	21260	27560	—	8260	9910
HGLBD	3¼ to 9	8	10	⅜	2	¾	15040	30000	18450	24300	31500	—	8260	9910
GLBT512	3¼ to 11	5¼	12	5/16	2	¾	11845	23625	12110	15945	20670	25395	8260	9910
GLBT612	3¼ to 11	6½	12	⅜	2	¾	14665	29250	14990	19745	25595	31445	8260	9910
GLBT516	3¼ to 15	5¼	16	5/16	2	¾	15790	31500	12110	15945	20670	25395	8260	9910
GLBT616	3¼ to 15	6½	16	⅜	2	¾	19550	39000	14990	19745	25595	31445	8260	9910
GLBT520	3¼ to 19	5¼	20	5/16	2	¾	19740	39375	12110	15945	20670	25395	8260	9910
GLBT620	3¼ to 19	6½	20	⅜	2	¾	24440	48750	14990	19745	25595	31445	8260	9910

1. Allowable masonry bearing loads must be reduced where limited by the wood bearing on the plate.
2. Allowable concrete bearing loads are limited by the allowable bearing of the wood at 450 psi. Loads must be adjusted for other widths not shown.
3. The GLBT5 has a WT4x9 structural tee; the GLBT6 has a WT4x12 structural tee.
4. Allowable horizontal bolt loads include a 33% and 60% increase for earthquake or wind loading; reduce if masonry or concrete is limiting.
5. **Specify "W" dimension when ordering.**



Typical GLB Installation

This series is for retrofit or new construction. These products may be used together as a system or in individual applications, designed and tested for earthquake and high wind conditions.

FA and HFA Foundation Anchors eliminate vertical drilling by nailing into the top of the mudsill. They facilitate installation when vertical space is limited, and resist forces between the foundation and mudsill. The FAP Plate connects the mudsill to the foundation. Designed to provide lateral load resistance.

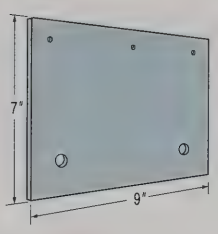
FJA Foundation Joist Anchor nails or bolts directly into floor joist, and provides a direct connection between the foundation and joist. It provides uplift and lateral resistance. FSA Foundation Stud Anchor nails or bolts to floor joist, or nails to stud. Plywood shearwall may require notching with stud-to-foundation installation.

MATERIAL: FAP—7 gauge; all others—12 gauge

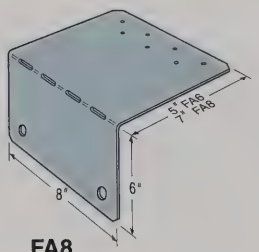
FINISH: Galvanized

INSTALLATION: • Use all specified fasteners; see General Notes.
- Select and install concrete anchor bolts in accordance with the manufacturer's recommendations.
- See Epoxy-Tie and RFB, pages 32 and 33, for tested, load-rated epoxies and retrofit bolts.

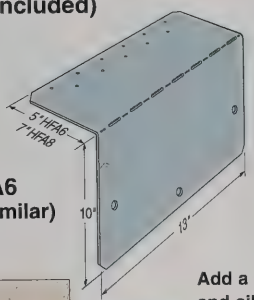
CODES: BOCA, ICBO, SBCCI NER-469; NER-499; City of LA RR 25158 and RR 25293.



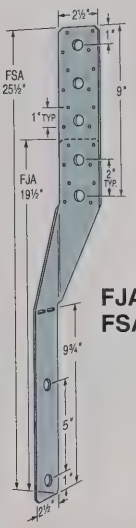
FAP
(screws not included)



FA8
(FA6 similar)



HFA6
(HFA8 similar)

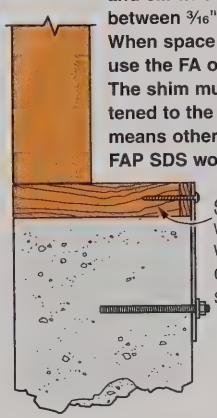


FJA
FSA

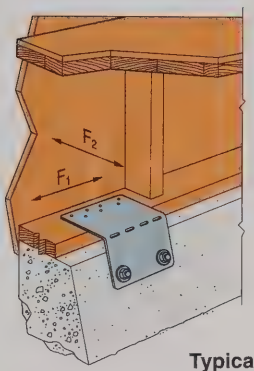
Model No.	Max Spacing to Replace Anchor Bolts		Fasteners			Uplift Avg Ult	Allowable Loads					
			Anchor Bolt		Stud/Joist/Plate		(133)			(160)		
	½"	⅝"	Qty	Dia			Uplift	F_1	F_2	Uplift	F_1	F_2
FAP	5½'	4'	2	½	3-SDS¼ x 2½ + shim thickness	—	—	950	365	—	950	365
FA6	2½'	1½'	2	½	7-10dx1½	—	—	400	515	—	400	515
FA8					7-10dx1½	—	—	400	515	—	400	515
HFA6	6'	6'	3	½	11-10dx1½	—	—	1350	365	—	1400	365
HFA8					11-10dx1½	—	—	1350	365	—	1400	365
FJA	—	—	2	½	8-10dx1½	4500	1000	185	60	1205	185	60
					2-½ MB	4500	575	185	60	690	185	60
FSA	—	—	2	½	8-10dx1½	5233	1000	—	—	1205	—	—
					2-½ MB	5233	575	—	—	690	—	—

1. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce where other load durations govern.
2. For redwood mudsills, reduce F1 on HFA to 1215 lbs, and 840 lbs on FAP.
3. Use the RFB#4x6 with the Epoxy-Tie for the anchorage system.
4. FAP uses a minimum SDS wood screw length of 2½" plus the shim thickness.
5. The shim must be fastened to the mudsill by means other than the FAP wood screw.
6. See page 8 for SDS wood screw information.
7. FAP may be installed with ¼" lag bolts. Follow code requirements for predrilling.

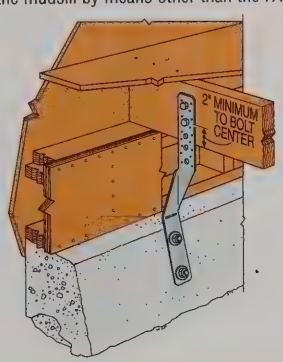
Add a shim between plate and sill when space is between 3/16" and 1½". When space exceeds 1½" use the FA or HFA. The shim must be fastened to the mudsill by means other than the FAP SDS wood screw.



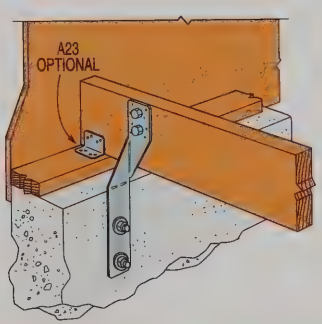
Typical FAP Installation Foundation to Mudsill



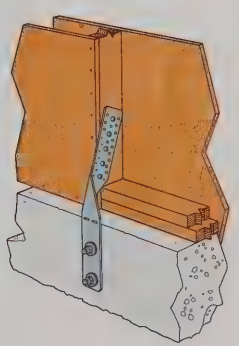
Typical FA Installation Foundation to Mudsill
Slotted for easy bending for trapezoid foundations



Typical FSA Installation Foundation to Joist



Typical FJA Installation Foundation to Joist

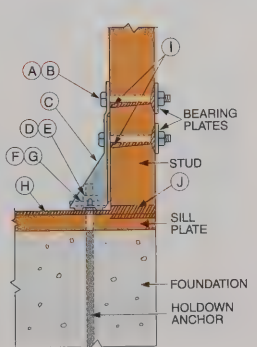


Typical FSA Installation Foundation to Stud

Sources of Deflection at Shearwall Holdown Connections

A. Bolt slip can occur at holdown stud bolts.
B. Increased bolt slip can occur if oversized holes are drilled through the stud for holdown stud bolts (oversized holes are when the hole dia. is greater than the bolt dia. plus 1/16" per 1997 NDS, sec. 8.1.2.1).
C. When a holdown is installed on only one side of the stud, an eccentricity exists during loading which can cause more movement in the shearwall system.
D. Unrestrained anchor bolt nuts can spin loose during cyclic loading; using steel nylon locking nuts or thread adhesive may prevent nut spin.
E. Movement can occur when nuts are not tightened enough. Retightening bolts before covering wall may prevent this.
F. Deflection can occur in the holdown under load caused by stresses due to earthquake or high wind.
G. Lateral displacement at the top of the wall rotates the stud around its base causing the holdown base plate to displace vertically.
H. Wood shrinkage can occur due to drying of the sill plate, rim joist, and/or top plate; nuts may require retightening.
I. Uplift forces on the bolts can cause localized wood crushing at bolt bearing locations. Using larger bearing plates may prevent this.
J. Wood at the end of the studs (sill plates, rim joists, etc.) may crush under normal dead and live loading; additional compressive forces due to overturning during earthquake and high wind loads add to the deflection.

(A) (B) and (F) do not apply to the PHD series.



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STRONG-WALL™ SHEARWALL

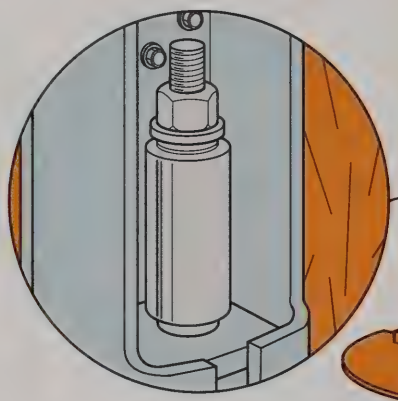
NEW! THE STRONG-WALL™ SHEARWALL FOR 2nd FLOOR APPLICATIONS!

After extensive full scale testing at our state-of-the-art Cyclic Test facility, Simpson Strong-Tie introduces the Strong-Wall for use on the second floor of two-story wood light-frame construction. Utilizing our new Simpson Takeup Device, the TUD, second floor applications achieve high design loads by reducing deflection in the system due to natural wood shrinkage and wood crushing which will occur during seismic events.

Check our website www.simpsonstrongwall.com for structural details.

New! Simpson Takeup Device (TUD) features:

- 1" of takeup maintains system integrity.
- Fits up to ⅞" all thread rod.
- Opposing threads are self tightening.
- Protective sleeve keeps debris out.



TUD7/8-1
(required for catalog loads)



NOTE:
The Engineer of record is responsible for concrete design.

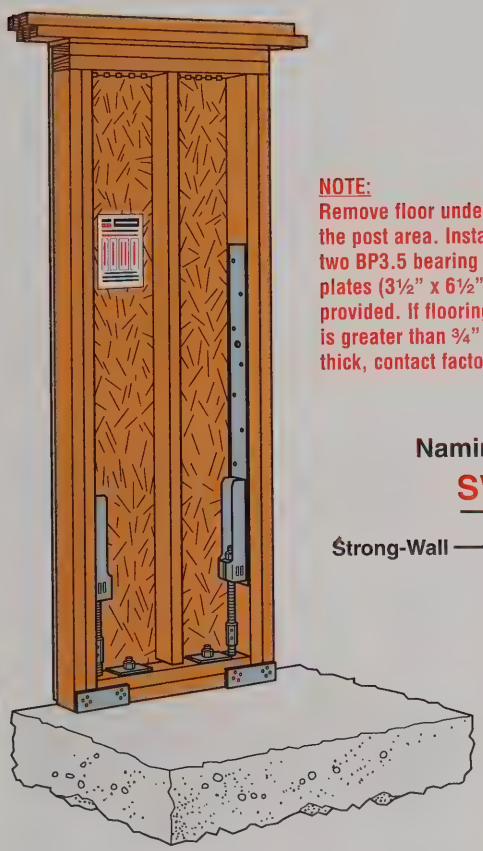
FEATURE	BENEFIT
New! Pre-attached End Post Strap	Required for 1st floor walls in 2 story applications, strengthens end post for high design loads.
Holes in Top Member Pre-Drilled for All Thread Rod and/or Wiring	Makes installation in 2 story applications easy.
Stacked or Offset Wall Configurations for 2nd Story Installation	Allows for flexible design options.
Wood Wall	Higher R value than steel wall.
Continuous Top Plate	Achieves higher drag strut capacity.
3 1/2 Inches Thick	No diaphragm sticking out of the plane of the wall; no furring out adjacent walls—saves on installation costs.
Pre-Attached Holdowns	Assures high quality control, saves installation time.
Slotted Holes for Perpendicular Adjustments	Field adjustability results in fewer problems associated with misplaced anchor bolts.
Factory Built, Fingerprinted, High Quality Materials	Consistent quality and performance.
Allows for Greater Than 2-to-1 Aspect Ratio	Can use less expensive wood wall, steel-type is labor-intensive.
Template available for Placement of Anchor Bolts	Anchor bolts less likely to be off layout. Saves time for concrete and framing contractor.
Design Load Values Derived from Cyclic Testing of Complete Wall System	Higher degree of confidence in building performance for owner, engineer and insurance company.
Higher loads than conventional field built shearwalls	Requires 30-70% less lineal footage than conventional shearwall. Eliminating excess shear panels can reduce water entrapment problems associated with some stucco installation methods.

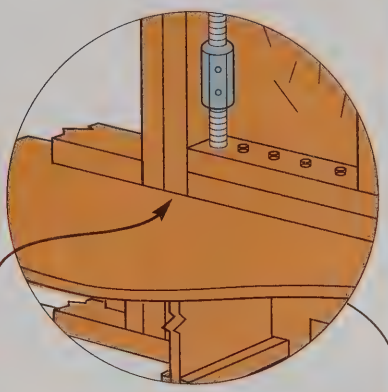
The building designer shall verify that these details are consistent with the complete load path requirements of the structure.

STRONG-WALL™ SHEARWALL

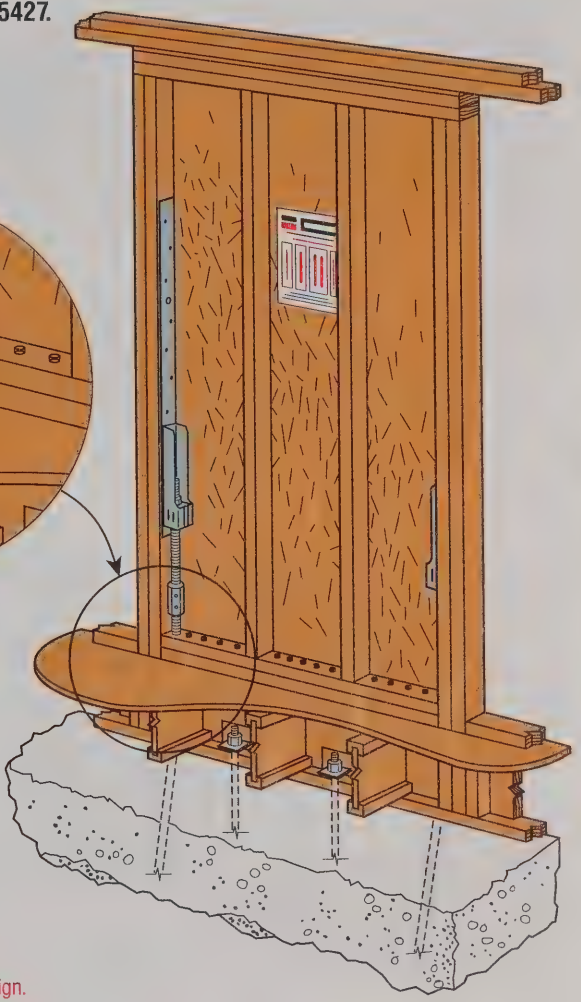
The Strong-Wall Shearwall has ICBO Code No. PFC-5485, City of LA RR 25427.

Standard model walls are used for slab-on-grade applications, or for installations where the wall will bear directly on concrete. The top of the wall attaches to double top plates or can fasten to various header materials. Standard model walls can be installed around window and door openings, on garage wing walls, interior applications or any other locations where increased lateral resistance is required.





NOTE:
Remove floor under the post area. Install two BP3.5 bearing plates (3½" x 6½") provided. If flooring is greater than ¾" thick, contact factory.



Naming Scheme:

SW24x8

- Strong-Wall
- Width (in.)
- Nominal Height (ft.)

NOTE:
The Engineer of record is responsible for concrete design.

Standard Strong-Wall Shearwall

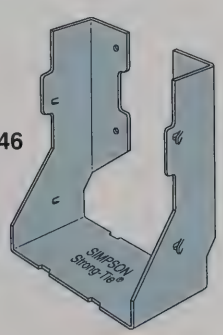
US Patent 5,706,626

HUSC CONCEALED FLANGE FACE MOUNT HANGER

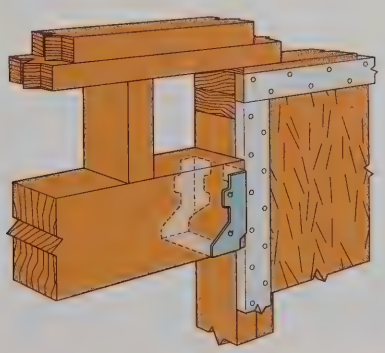
NEW

When framing conditions necessitate this application, the HUSC46 is recommended for use with the Strong-Wall Shearwall for light duty door and window headers. With face nailing closer to the center of the carrying member and the double shear nailing feature, an HUSC46 hanger will achieve the loads listed in the Face Mount Hanger tables. Application is limited to the HUSC46.

NOTE: When nailing into the carrying member's end grain, the allowable load is 0.67 of the table load.



HUSC46



Typical Installation of HUSC46

RAISED FLOOR

Raised Floor walls are designed and tested for installation on top of raised wood floor systems. Raised Floor walls are compatible with both solid sawn lumber and I-joist floor systems. Simpson SDS screws located in both the top and bottom of the wall allow for fast installation to the top plate and floor framing elements.

Naming Scheme:

SW24x8-RF

- Strong-Wall
- Width (in.)
- Nominal Height (ft.)
- Raised Floor

Check our website www.simpsonstrongwall.com for structural details.

The building designer shall verify that these details are consistent with the complete load path requirements of the structure.

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STRONG-WALL™ SHEARWALL

SIMPSON Strong-Tie CONNECTORS

STANDARD STRONG-WALL

Model No.	W (in)	H (in)	T (in)	Number of Fasteners in Top of Wall	Number of Mudsill Anchors	Holdown Reaction at Strength Limit State (lbs)	Holdown Reaction at Allowable Shear (lbs)	Holdown[2] Anchor Bolts	Allowable Shear V Load (lb)	Drift at Allowable Shear V (in)	Allowable Shear V Load (lb/ft)	Max. Wall Weight (lbs)
SW18x8	18	93¼	3½	9-SDS¼x6	2-⅝	20140	2220	2-SSTB28	1150	.317	763	85
SW24x8	24	93¼	3½	12-SDS¼x6	2-⅝	16470	3070	2-SSTB28	1610	.389	804	91
SW32x8	32	93¼	3½	16-SDS¼x6	2-⅝	20670	7100	2-SSTB28	2865	.377	1074	116
SW48x8	48	93¼	3½	24-SDS¼x6	3-⅝	19920	5900	2-SSTB28	4545	.380	1136	149
SW18x9	18	105¼	3½	9-SDS¼x6	2-⅝	23270	2970	2-SSTB28	1080	.371	722	94
SW24x9	24	105¼	3½	12-SDS¼x6	2-⅝	21540	3560	2-SSTB28	1585	.396	793	101
SW32x9	32	105¼	3½	16-SDS¼x6	2-⅝	21510	4960	2-SSTB28	2600	.427	975	128
SW48x9	48	105¼	3½	24-SDS¼x6	3-⅝	20520	6190	2-SSTB28	4370	.439	1093	165
SW24x10	24	117¼	3½	12-SDS¼x6	2-⅝	22740	3730	2-SSTB28	1590	.446	797	111
SW32x10	32	117¼	3½	16-SDS¼x6	2-⅝	19530	4670	2-SSTB28	2460	.453	923	134
SW48x10	48	117¼	3½	24-SDS¼x6	3-⅝	21270	6680	2-SSTB28	4095	.435	1024	171

RAISED FLOOR - 1st FLOOR WITHOUT SIMPSON TAKEUP DEVICE (TUD)

Model No.	W (in)	H (in)	T (in)	Number of Fasteners in Top of Wall	Number of Fasteners in Bottom of Wall	Holdown Reaction at Strength Limit State (lbs)	Holdown Reaction at Allowable Shear (lbs)	Holdown[2] Anchor Bolts	Allowable Shear V Load (lb)	Drift at Allowable Shear V (in)	Allowable Shear V Load (lb/ft)	Max. Wall Weight (lbs)
SW18x8-RF	18	93¼	3½	9-SDS¼x6	13-SDS¼x6	23960	2390	2-SSTB28	835	.423	557	85
SW24x8-RF	24	93¼	3½	12-SDS¼x6	16-SDS¼x6	21880	4010	2-SSTB28	1060	.445	532	91
SW32x8-RF	32	93¼	3½	16-SDS¼x6	20-SDS¼x6	22050	3960	2-SSTB28	1900	.409	712	116
SW48x8-RF	48	93¼	3½	24-SDS¼x6	28-SDS¼x6	24070	5640	2-SSTB28	3570	.421	892	149
SW18x9-RF	18	105¼	3½	9-SDS¼x6	13-SDS¼x6	23940	2140	2-SSTB28	710	.399	475	94
SW24x9-RF	24	105¼	3½	12-SDS¼x6	16-SDS¼x6	21620	2840	2-SSTB28	1010	.420	506	101
SW32x9-RF	32	105¼	3½	16-SDS¼x6	20-SDS¼x6	22140	4610	2-SSTB28	1540	.439	576	128
SW48x9-RF	48	105¼	3½	24-SDS¼x6	28-SDS¼x6	23910	6010	2-SSTB28	2860	.425	714	165
SW24x10-RF	24	117¼	3½	12-SDS¼x6	16-SDS¼x6	23980	2630	2-SSTB28	985	.425	493	111
SW32x10-RF	32	117¼	3½	16-SDS¼x6	20-SDS¼x6	21900	4160	2-SSTB28	1640	.504	616	134
SW48x10-RF	48	117¼	3½	24-SDS¼x6	28-SDS¼x6	23440	5700	2-SSTB28	2470	.429	618	171

NEW RAISED FLOOR - 2nd FLOOR WITH SIMPSON TAKEUP DEVICE (TUD)

Model No.	W (in)	H (in)	T (in)	Number of Fasteners in Top of Wall	Number of Fasteners in Bottom of Wall	Holdown Reaction at Strength Limit State (lbs)	Holdown Reaction at Allowable Shear (lbs)	Holdown[4,5] Anchor	Allowable Shear V Load (lb)	Drift at Allowable Shear V (in)	Allowable Shear V Load (lb/ft)	Max. Wall Weight (lbs)
SW18x8-RF	18	93¼	3½	9-SDS¼x6	13-SDS¼x6	23800	2120	7/8" ATR & TUD 7/8-1	830	.377	555	85
SW24x8-RF	24	93¼	3½	12-SDS¼x6	16-SDS¼x6	25400	3670	7/8" ATR & TUD 7/8-1	1320	.409	662	91
SW32x8-RF	32	93¼	3½	16-SDS¼x6	20-SDS¼x6	26140	5150	7/8" ATR & TUD 7/8-1	2010	.507	753	116
SW48x8-RF	48	93¼	3½	24-SDS¼x6	28-SDS¼x6	29940	7120	7/8" ATR & TUD 7/8-1	3760	.450	939	149
SW18x9-RF	18	105¼	3½	9-SDS¼x6	13-SDS¼x6	23550	1580	7/8" ATR & TUD 7/8-1	720	.349	477	94
SW24x9-RF	24	105¼	3½	12-SDS¼x6	16-SDS¼x6	24840	3140	7/8" ATR & TUD 7/8-1	1130	.398	565	101
SW32x9-RF	32	105¼	3½	16-SDS¼x6	20-SDS¼x6	26410	4610	7/8" ATR & TUD 7/8-1	1750	.430	657	128
SW48x9-RF	48	105¼	3½	24-SDS¼x6	28-SDS¼x6	28680	6600	7/8" ATR & TUD 7/8-1	3160	.478	790	165
SW24x10-RF	24	117¼	3½	12-SDS¼x6	16-SDS¼x6	24350	2670	7/8" ATR & TUD 7/8-1	980	.388	491	111
SW32x10-RF	32	117¼	3½	16-SDS¼x6	20-SDS¼x6	25890	4140	7/8" ATR & TUD 7/8-1	1520	.419	570	134
SW48x10-RF	48	117¼	3½	24-SDS¼x6	28-SDS¼x6	28120	6120	7/8" ATR & TUD 7/8-1	2740	.466	686	171

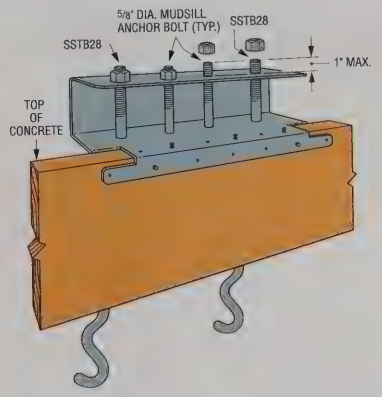
1. For plywood shear panel, add "P" to model name (e.g. SW24x8P), and multiply the table loads by 0.88.
2. For two-pour applications, use the SSTB34. For standard wall, with a second story installed above, engineer of record must specify if high strength anchorage is required, depending on load.
3. Recommended minimum 5/8" x 12" mudsill anchor.
4. All thread rod not supplied with Raised Floor walls. Minimum ASTM A307 required. Engineer of record must specify if high strength all-thread rod is required, depending on load.
5. TUD 7/8-1 required to achieve the table loads. Not supplied with Raised Floor walls.

The building designer shall verify that these details are consistent with the complete load path requirements of the structure.

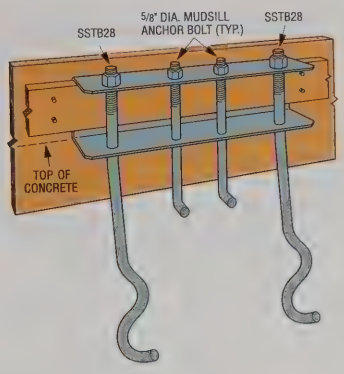
STRONG-WALL CONCRETE TEMPLATES

Strong-Wall Model	Width (in)	Strong-Wall Template Model No.		
		Exterior	Interior	Panel Form
SW16x7-4HD SW16x7-6HD SW16x8-4HD SW16x8-6HD	16	SWT16-HD	SWTI16-HD	SWTPF16-HD
SW18x8 SW18x9	18	SWT18	SWTI18	SWTPF18
SW22x7-4 SW22x7-6 SW22x8-4 SW22x8-6	22	SWT22	SWTI22	SWTPF22
SW24x8 SW24x9 SW24x10	24	SWT24	SWTI24	SWTPF24
SW32x8 SW32x9 SW32x10	32	SWT32	SWTI32	SWTPF32
SW48x8 SW48x9 SW48x10	48	SWT48	SWTI48	SWTPF48

1. For RF Raised Floor Strong-Walls, use the corresponding standard Strong-Wall template as required.
2. Templates are recommended and are required in some jurisdictions.

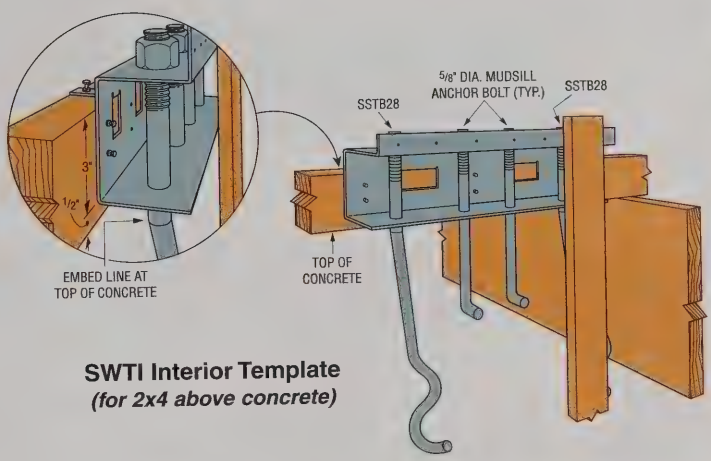


SWT Exterior Template
(for 2x Form Boards)



SWTPF Template
(for Plywood Panel Forms)

NOTE:
1. The height of the garage curb above the garage slab is critical.
2. See Garage Portal page for curb height tables.
3. Allow 1-1/2" minimum of concrete on either side of the template if the design is for a wood 1st floor or 2nd floor application.
4. Raised Floor Strong-Walls require 1-1/2" concrete edge distance from any corner or door opening.
5. Foundation design by others.

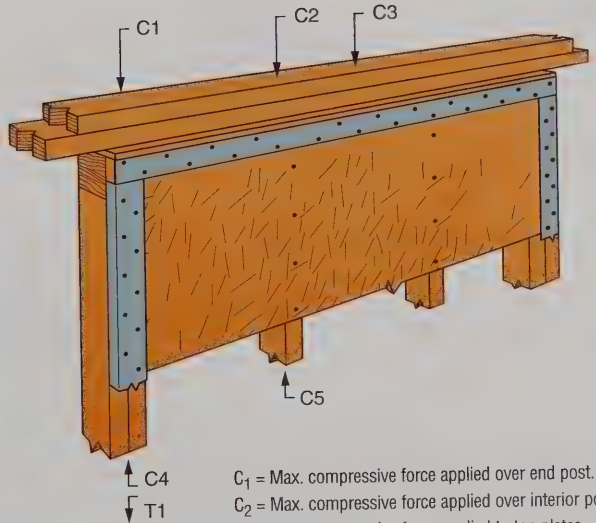


SWTI Interior Template
(for 2x4 above concrete)

ALLOWABLE VERTICAL LOADS (lbs)

Model	C_1 [1]	C_2 [2]	C_3 [3]	C_4 [4]	C_5 [5]	T_1
SW16x7-4HD	7100	N/A	2105	19900	N/A	7500
SW16x7-6HD	10700	N/A	2105	33000	N/A	7500
SW16x8-4HD	7100	N/A	2105	19100	N/A	7500
SW16x8-6HD	10700	N/A	2105	30500	N/A	7500
SW18x8	6100	N/A	2105	13500	N/A	7500
SW18x9	6100	N/A	2105	13500	N/A	7500
SW22x7-4	7100	N/A	2105	19900	N/A	7500
SW22x7-6	10700	N/A	2105	33000	N/A	7500
SW22x8-4	7100	N/A	2105	19100	N/A	7500
SW22x8-6	10700	N/A	2105	30500	N/A	7500
SW24x8	6100	N/A	2105	13500	N/A	7500
SW24x9	6100	N/A	2105	13500	N/A	7500
SW24x10	6100	N/A	2105	13300	N/A	7500
SW32x8	6100	4160	3690	13500	4750	7500
SW32x9	6100	4160	3690	13500	4750	7500
SW32x10	6100	4160	3690	13300	4700	7500
SW48x8	6100	4160	3690	13500	4750	7500
SW48x9	6100	4160	3690	13500	4750	7500
SW48x10	6100	4160	3690	13000	4700	7500

1. Load controlled by Fc perpendicular.
2. Load controlled by Fc perpendicular.
3. Loads based on C_D=1.25.
4. Loads based on C_D=1.33.
5. Loads based on C_D=1.25.
6. For RF Raised Floor Strong-Walls, use the corresponding standard Strong-Wall values.



C_1 = Max. compressive force applied over end post.
C_2 = Max. compressive force applied over interior post.
C_3 = Max. compressive force applied to top plates between studs.
C_4 = Max. compressive force in end post due to load from above (C_1) and overturning.
C_5 = Max. compressive force in interior post.
T_1 = Max. Tensile force in end post due to net uplift during overturning.

These allowable vertical loads are intended to aid the user in correctly implementing the Strong-Wall into the load path of the structure. Load combinations that tend to cause compression can be limited by perpendicular to grain interface issues, by buckling of the vertical members or by the bending and shear capacity of the combined top plates. Loads that result in net uplift in the boundary posts are limited by the value T_1 shown in the table.

The building designer shall verify that these details are consistent with the complete load path requirements of the structure.

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STRONG-WALL™ SHEARWALL

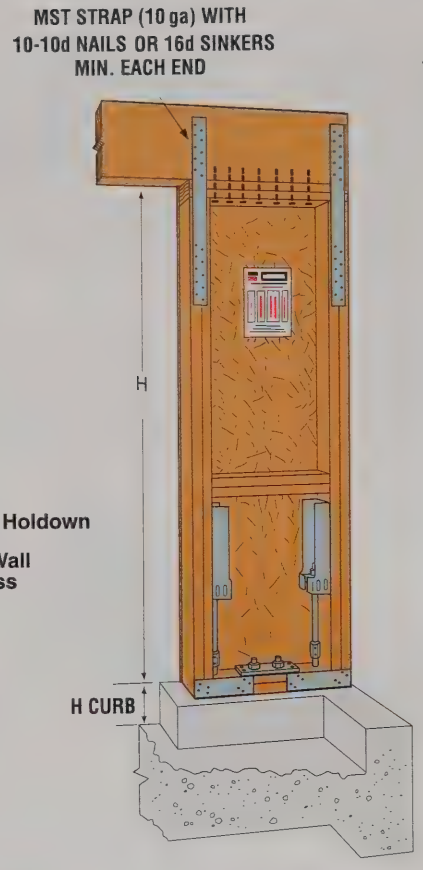
GARAGE PORTAL SYSTEMS

Garage Portal systems provide increased lateral resistance over site-built shearwalls in locations where space is at a premium. Portal walls shall be installed with a minimum 4x12 Doug Fir header for adequate shear nailing. Because the portal walls and header are tested as a system, the resulting portal frame offers superior engineered performance over site-built walls.

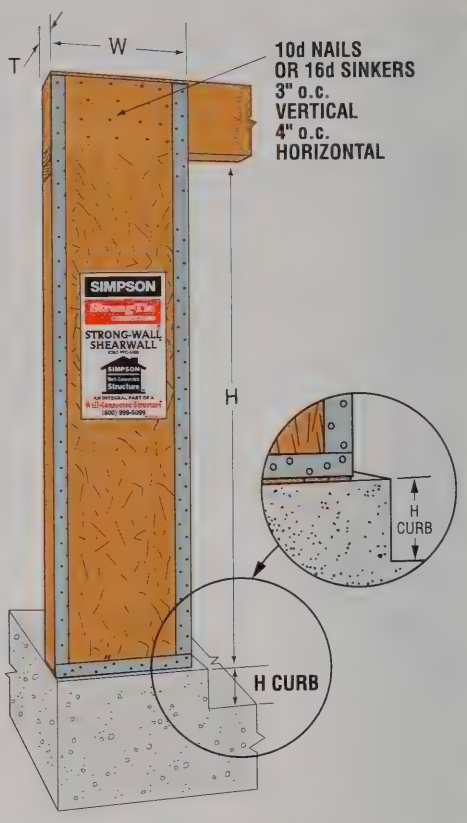
Naming Scheme:

SW16x7-4HD

- Strong-Wall
- Width (in.)
- Nominal Height (ft.)
- Nominal Wall Thickness (in.)
- Bolted Holdown



22" Garage Portal
(Inside View)



16" Garage Portal
(Outside View)

GARAGE HEADER ROUGH OPENING HEIGHT

Model	H CURB	Without 1\2" Shim	With 1\2" Shim
SW16x7-4HD	6"	7'-0"	7'-0½"
SW16x7-6HD	7"	7'-1"	7'-1½"
NEW SW16x8-4HD	6"	8'-0"	8'-0½"
NEW SW16x8-6HD	7"	8'-1"	8'-1½"
SW22x7-4	6"	7'-0"	7'-0½"
SW22x7-6	7"	7'-1"	7'-1½"
NEW SW22x8-4	6"	8'-0"	8'-0½"
NEW SW22x8-6	7"	8'-1"	8'-1½"

1. One 1/2" shim is provided with Portal Strong-Walls.

Check our website www.simpsonstrongwall.com for structural details.

DOUBLE WALL GARAGE PORTAL[4]

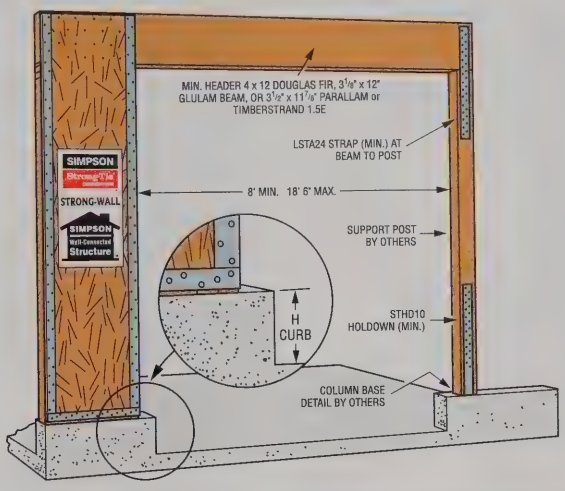
Model No.	W (in)	H (in)	T (in)	Number of Fasteners in Top of Wall	Number of Mudsill Anchors	Holdown Reaction[7] at Strength Limit States (lbs)	Holdown Reaction[7] at Allowable Shear (lbs)	Holdown[2] Anchor Bolts	Allowable Shear V Load (lb) for Portal System[5]	Drift at Allowable Shear V (in)	Allowable Shear V Load (lb/ft)	Max. Wall Weight (lbs)
SW16x7-4HD	16	78	4	8-SDS1/4x6	2-5/8	17600	3900	2-SSTB28	2800	.367	1050	90
SW16x7-6HD	16	78	5 3/4	8-SDS1/4x6	2-5/8	17600	3900	2-SSTB28	2800	.367	1050	112
NEW SW16x8-4HD	16	90	4	8-SDS1/4x6	2-5/8	18940	1780	2-SSTB28	2490	.420	935	95
NEW SW16x8-6HD	16	90	5 3/4	8-SDS1/4x6	2-5/8	18940	1780	2-SSTB28	2490	.420	935	120
SW22x7-4	22	78	4	10-SDS1/4x6	2-5/8	16350	3200	2-SSTB28	4820	.369	1315	95
SW22x7-6	22	78	5 3/4	10-SDS1/4x6	2-5/8	16350	3200	2-SSTB28	4820	.369	1315	117
NEW SW22x8-4	22	90	4	10-SDS1/4x6	2-5/8	21160	3260	2-SSTB28	3990	.446	1090	105
NEW SW22x8-6	22	90	5 3/4	10-SDS1/4x6	2-5/8	21160	3260	2-SSTB28	3990	.446	1090	130

1. For plywood shear panel, add "P" to model name (e.g. SW24x8P), and multiply the table loads by 0.88.
2. For two-pour bolted applications, use the SSTB34.
3. Recommended header moisture content is 16% or less at time of installation.
4. A double wall garage portal system consists of 2 walls with a header spanning over the top and connected as shown.
5. SW16 and SW22 walls may be combined. The capacity of the combined system shall be taken as the sum of the "Single Wall Garage Portal" capacities.
6. Recommended minimum 5/8" x 12" mudsill anchor.
7. Reactions are measured test values.
8. The minimum header sizes listed are the minimum required for lateral rigidity of the portal system. Larger headers may be required due to vertical loading.

The building designer shall verify that these details are consistent with the complete load path requirements of the structure.

Detail 1 - Single Wall Garage Portal

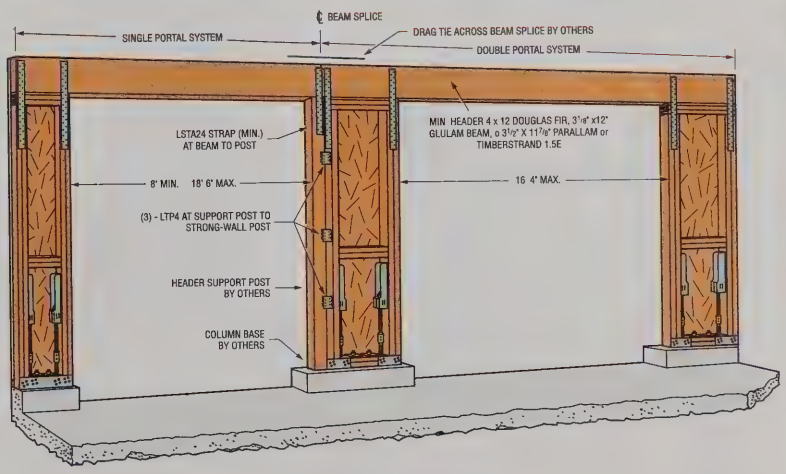
1. Beam to support post and support post to foundation uplift connectors may be reduced where justified by calculations.
2. This detail reflects lateral load requirements of a Single Wall Portal system. It is the designer's responsibility to provide a complete load path for all loads in accordance with the governing codes.
3. Longer header spans can be accommodated if larger headers are used such that equivalent stiffness is equal to or greater than that provided by the minimum header and maximum length indicated.
4. STHD10 and LSTA24 *(design by others)* are minimum requirements to achieve the allowable loads.



Detail 2 - Single and Double Wall Garage Portal

1. Beam to support post and support post to foundation uplift connectors may be reduced where justified by calculations.
2. This detail reflects lateral load requirements of a Single and Double Wall Portal system. It is the designer's responsibility to provide a complete load path for all loads in accordance with the governing codes.
3. System rating equals the sum of the Single and Double Wall Portal values.
4. Alternate Installation: A single piece header *(no camber)* may be substituted for the two headers shown above. The design rating for this condition may then be evaluated as the sum of the individual wall *(pier)* ratings. Individual wall *(pier)* ratings for this condition may be taken as half of their Double Wall Portal values.
5. Longer header spans can be accommodated if larger headers are used such that equivalent stiffness is equal to or greater than that provided by the minimum header and maximum length indicated.
6. LTP4 and LSTA24 *(design by others)* are minimum requirements to achieve the allowable loads.

Check our website www.simpsonstrongwall.com for structural details.



SINGLE WALL GARAGE PORTAL[4]

Model No.	W (in)	H (in)	T (in)	Number of Fasteners in Top of Wall	Number of Mudsill Anchors	Holdown Reaction[6] at Strength Limit States (lbs)	Holdown Reaction[6] at Allowable Load (lbs)	Holdown[2] Anchor Bolts	Allowable Shear V Load (lbs) for Portal System	Drift at Allowable Shear V (in)	Allowable Shear V Load (lb/ft)	Max. Wall Weight (lbs)
SW16x7-4HD	16	78	4	8-SDS¼x6	2-⅝	17100	3070	2-SSTB28	1460	.348	1095	90
SW16x7-6HD	16	78	5 3/4	8-SDS¼x6	2-⅝	17100	3070	2-SSTB28	1460	.348	1095	112
NEW SW16x8-4HD	16	90	4	8-SDS¼x6	2-⅝	18940	1780	2-SSTB28	1245	.420	935	95
NEW SW16x8-6HD	16	90	5 3/4	8-SDS¼x6	2-⅝	18940	1780	2-SSTB28	1245	.420	935	120
SW22x7-4	22	78	4	10-SDS¼x6	2-⅝	21700	5410	2-SSTB28	2190	.396	1195	95
SW22x7-6	22	78	5 3/4	10-SDS¼x6	2-⅝	21700	5410	2-SSTB28	2190	.396	1195	117
NEW SW22x8-4	22	90	4	10-SDS¼x6	2-⅝	21160	3260	2-SSTB28	1995	.446	1090	105
NEW SW22x8-6	22	90	5 3/4	10-SDS¼x6	2-⅝	21160	3260	2-SSTB28	1995	.446	1090	130

1. For plywood shear panel, add "P" to model name (e.g. SW24x8P), and multiply the table loads by 0.88.
2. For two-pour applications, use the SSTB34.
3. Recommended header moisture content is 16% or less at time of installation.
4. A single wall garage portal system consists of 1 wall with a header spanning over the top and connected as shown.
5. Recommended minimum 5/8" x 12" mudsill anchor.
6. Reactions are measured test values.
7. The minimum header sizes listed are the minimum required for lateral rigidity of the portal system. Larger headers may be required due to vertical loading.

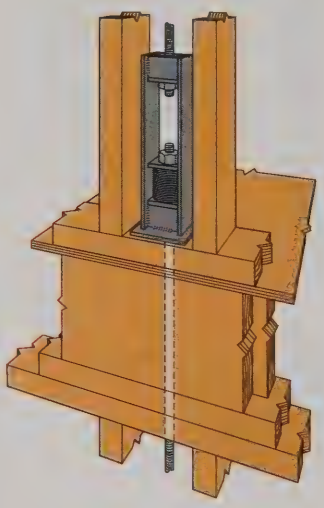
The building designer shall verify that these details are consistent with the complete load path requirements of the structure.

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ATS ANCHOR TIEDOWN SYSTEMS

- Concentric Holdown for multi-story commercial applications.
- No horizontal drilling
- From 8000 lbs to 40,000 lbs load capacity.

CODE: ICBO ER5090; City of L.A. RR 25236

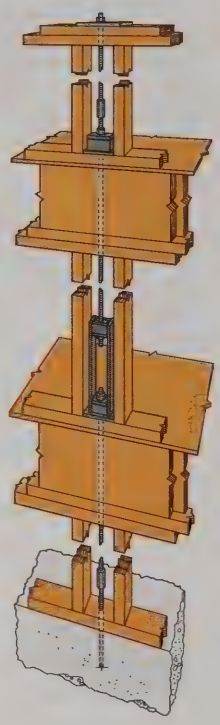


NEW

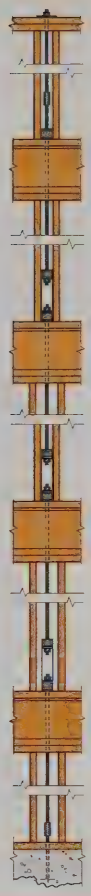
ATS

U.S. Patent No. 4,875,314 Canada Patent No. 1,325,874

Request form F-ATS for detailed information



ATS System in a four story application



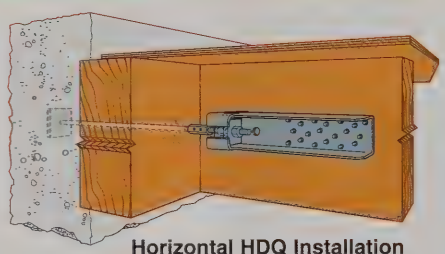
ATS System in a five story application

HDQ8 HOLDOWN

NEW

Attaches purlin to wall.
Finish: Galvanized.

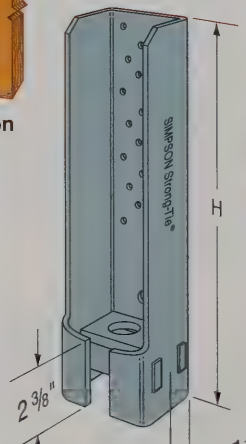
- SDS screws for faster installation and maintain integrity of the wood (included)
- ⅝" of adjustability perpendicular to the wall
- 1 ¼" center line for reduced eccentricity
- Use in vertical and horizontal applications



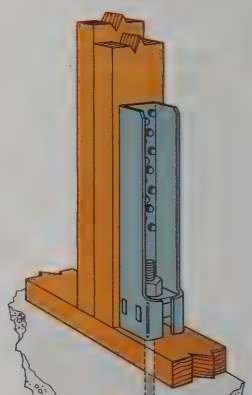
Horizontal HDQ Installation

Model No.	Ga	W	H	B	Anchor Dia.	No. of SDS 1/4x3 Wood Screws	Allowable Tension (lbs) (133)	Holdown Deflection at Highest Allowable Design Load
HDQ8-SDS3	7	2⅞	14	2½	⅞	20	8325	0.040

1. Allowable loads have been increased 33% for wind or earthquake loading. No further increase allowed.
2. For double installation, offset holdowns to eliminate screw interference. This achieves double the load capacity (16,650 lbs).
3. The designer must specify anchor bolt type, length and embedment. See the SSTB Anchor Bolts.
4. See page 32 for retrofit anchor bolt.
5. Loads are based on static tests on wood studs, limited by the lowest of 0.125" deflection, ultimate divided by 3, or the wood screw value.
6. Deflection at Highest Allowable Design Load: The deflection of a holdown measured between the anchor bolt and the strap portion of the holdown when loaded to the highest allowable load listed in the catalog table. This movement is strictly due to the holdown deformation under a static load test conducted on a steel jig.
7. Installs best with a low speed ½" right angle drill with a ⅜" hex head driver.



HDQ
US Patent No. 6,018,917



HDQ Vertical Installation

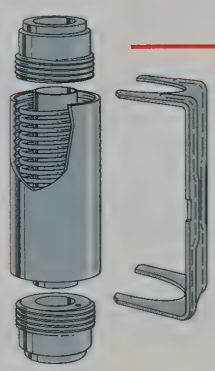
May also be installed raised off the sill plate

TUD SIMPSON TAKEUP DEVICE

NEW

- Cost effective solution for a known industry problem
- 1" of travel
- Fits up to ⅞" diameter rod
- Sized to fit HDQ and PHD holdowns

Patent Pending



TUD7/8-1

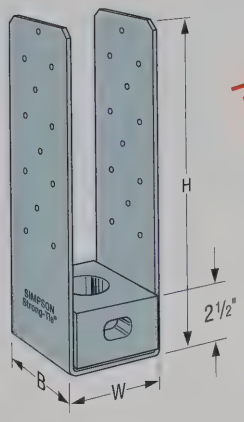
The clamp holds the device in tension until installation is complete. Do not remove clamp until the TUD is fully installed.

HDC CONCENTRIC HOLDOWNS

HDC product line eliminates eccentricity. Installs with SDS screws (included) to reduce slip and maintain post capacity.
MATERIAL: 10 gauge strap. **FINISH**: Galvanized strap, aluminum base.
INSTALLATION: • Use all specified fasteners. See General Notes.

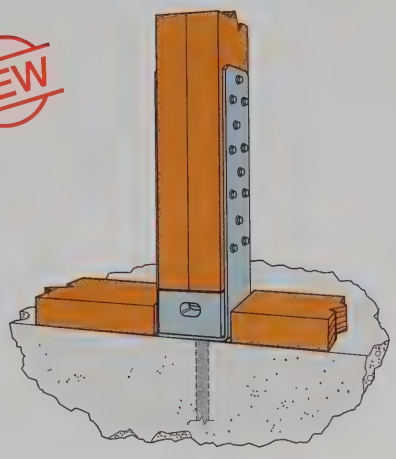
- Sized for 2-2x, 4x and 2-2x6 members in two load capacities for residential needs
- Concentric to eliminate bending on the stud
- SDS screws for high load capacity and maintain the integrity of the stud
- Slot in the seat allows for ⅜" of adjustment
- Witness slot in the base to inspect the nut
- Maximum anchor bolt height above concrete is 2½"

Model No.	W	H	B	Anchor Bolt	Number of SDS 1/4x2 1/2	Allowable Tension (133)
HDC5/22-SDS2.5	3 1/8	9 3/8	3	5/8	12	4870
HDC5/4-SDS2.5	3 9/16	9 1/8	3	5/8	24	4870
HDC10/22-SDS2.5	3 1/8	14 3/8	3	7/8	12	9735
HDC10/4-SDS2.5	3 9/16	14 1/8	3	7/8	24	9735



HDC

NEW


Typical HDC Installation with 2-2x4 studs *(Similar with 2-2x6 studs)*

1. The designer must specify anchor bolt type, length and embedment. See the SSTB Anchor Bolts.
2. See page 32 for retrofit anchor bolt.
3. Loads are based on static tests on wood studs, limited by the lowest of 0.125" deflection, ultimate divided by 3, or the wood screw value.
4. Deflection at Highest Allowable Design Load: The deflection of a holdown measured between the anchor bolt and the strap portion of the holdown when loaded to the highest allowable load listed in the catalog table. This movement is strictly due to the holdown deformation under a static load test conducted on a steel jig.
5. Installs best with a low speed ½" right angle drill with a ⅜" hex head driver.

PHD PREDEFLECTED HOLDOWNS

The Predeflected Holdown (PHD) is a revolutionary development in holdown connections. Predeflected during manufacturing, the PHD virtually eliminate deflection from material stretch.

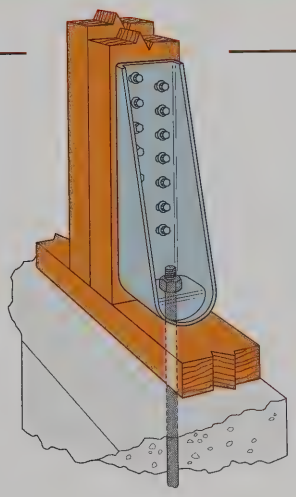
SPECIAL FEATURES:

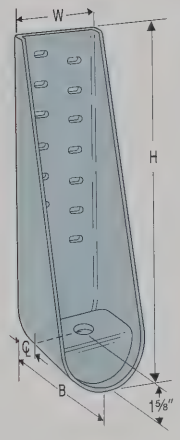
- Wood screws reduce slip due to overdrilled bolt holes.
- Smaller centerline reduces eccentricity in the stud.
- No stud bolts to countersink.
- The slot in the seat provides anchor bolt adjustment.
- Fits easily on a 4x stud.

MATERIAL: See table.
FINISH: Galvanized
INSTALLATION: • Use all specified fasteners. See General Notes.

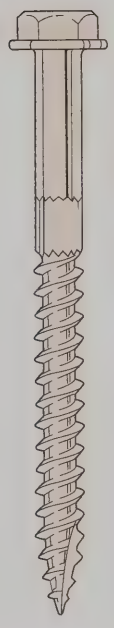
- Place the PHD over the anchor bolt.
- **Install Simpson's code-recognized SDS¼X3 wood screws, which are provided with the holdown.**
- For an improved connection, use a steel nylon locking nut or a thread adhesive on the anchor bolt.
- See SSTB Anchor Bolts, page 25, for anchorage options. The design engineer may specify any alternate anchorage calculated to resist the tension load for a specific job. Anchorage length should take the bearing plate height of 1⅝" into account, to ensure adequate length of threads to engage the nut.
- **To tie double 2x members together, the designer must determine the fasteners required to bind members to act as one unit without splitting the wood.**

CODES: ICBO 5328; City of L.A. RR 25300.

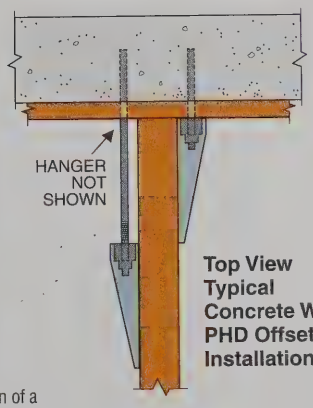

Typical PHD Installation as a Holdown



PHD5 (others similar)
US Patent 5,979,130


SDS¼X3 Screw
US Patent 6,109,850

See screw info on page 8



Top View Typical Concrete Wall PHD Offset Installation

Model No.	Ga	Dimensions W	H	B	CL	Fasteners Anchor Dia.	No. of Simpson SDS¼X3 Wood Screws	Avg Ult	Allowable [4] Loads 2-2x and Greater Vertical Wood Member	Holdown [5] Deflection at Highest Allowable Design Load
PHD2-SDS3	14	3	9 5/16	2⅞	1⅜	⅝	10	10,283	3285	.031
PHD5-SDS3	14	3	11 5/16	2⅞	1⅜	⅝	14	13,692	4500	.047
PHD6-SDS3	12	3⅛	13 13/16	2⅞	1⅜	⅞	18	18,000	5585	.043
PHD8-SDS3	10	3⅛	17 5/16	2⅞	1⅜	⅞	24	23,203	7120	.060

1. Allowable loads have been increased 33% for earthquake or wind loading with no further increase allowed; reduce where other loads govern.
2. The designer must specify anchor bolt type, length and embedment. See the SSTB Anchor Bolts.
3. See page 32 for retrofit anchor bolt.
4. Loads are based on static tests on wood studs, limited by the lowest of 0.125" deflection, ultimate divided by 3, or the wood screw value.
5. Deflection at Highest Allowable Design Load: The deflection of a holdown measured between the anchor bolt and the strap portion of the holdown when loaded to the highest allowable load listed in the catalog table. This movement is strictly due to the holdown deformation under a static load test conducted on a steel jig.
6. Installs best with a low speed ½" right angle drill with a ⅜" hex head driver.
7. PHD installed raised off the sill plate may have greater deflection values.
8. **SDS¼x3 screws are required for PHD's. Call Simpson for PHD loads using SDS¼x1½" screws for 2x wood.**
9. For Hem-Fir loads, request Technical Bulletin T-HEMFIR.

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Holdowns are used to transfer tension loads between floors, to tie purlins to masonry or concrete, etc. Use HDAs and HDs for overturn requirements and other applications to transfer tension loads. **All HDAs and the HD15 are self-jigging, ensuring code-required minimum 7 bolt diameter spacing from the end of the wood member to the center of the first bolt hole.**

HD6A, HD8A, HD10A and HD14A's seat design allows greater installation adjustability. An overall width of 3¼" for the HD6A, HD8A and HD10A, and 3½" for the HD14A provides an easy fit in a standard 4x wall.

HDA SPECIAL FEATURES:

- Single piece non-welded design results in higher capacity.
- Load Transfer Plate eliminates the need for a seat washer.
- Fewer inspection problems.

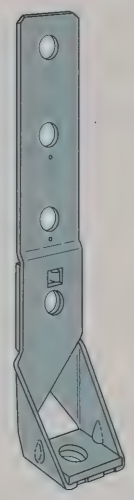
MATERIAL: See table

FINISH: HD2A, 5A, 6A, 8A, 10A—galvanized. HD8A may be ordered HDG; check with factory. HD14A, HD15, HD20A—Simpson gray paint

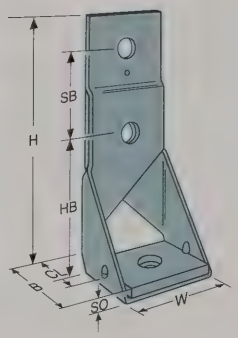
INSTALLATION: • Use all specified fasteners. See General Notes.

- For an improved connection, use a steel nylon locking nut or a thread adhesive on the anchor bolt.
- Bolt holes shall be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter (per 1997 NDS, section 8.1.2.1.).
- Standard washers are required between the base plate and anchor nut (HD15 only), and on stud bolt nuts against the wood. The Load Transfer Plate is an integral part of the HDA Holdown and no washer is required. See page 34 for BP/LBP Bearing Plates.
- See SSTB Anchor Bolts, Simpson's Anchoring Systems and Additional Anchorage Designs for anchorage options. The design engineer may specify any alternate anchorage calculated to resist the tension load for a specific job.
- Locate on wood member to maintain a minimum distance of seven bolt diameters, distance is automatically maintained when end of wood member is flush with the bottom of the holdown.
- To tie double 2x members together, the designer must determine the fasteners required to bind members to act as one unit without splitting.
- **For holdowns installed on the mudsill, anchor bolt nuts should be finger-tight plus 1/3 to 1/2 turn with a wrench, with consideration given to possible future wood shrinkage. Care should be taken to not over-torque the nut, which may lead to premature anchor bolt failure.**
- Stud bolts should be snugly tightened (1997 NDS, section 8.1.2.4).

CODES: BOCA, ICBO, SBCCI NER-393, NER-469; City of L.A. RR 24818, RR 25158 and RR 25293. HD6A and HD14A are not NER listed.

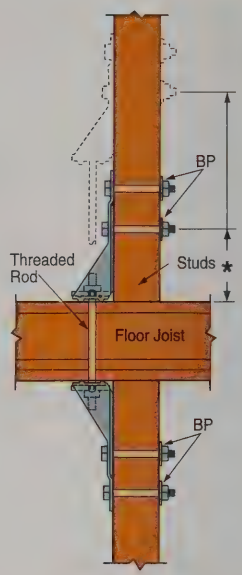


HD10A
(HD6A, HD8A HD14A and HD20A similar)



HD5A
(HD2A similar)

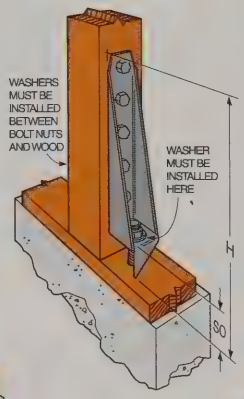
U.S. Patent 4,665,672
Canada Patent 1,253,481



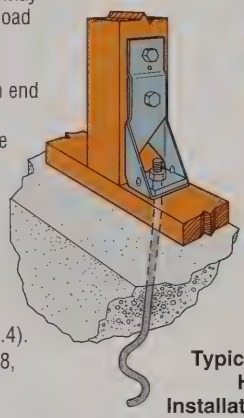
Typical HD5A Tie between Floors

*

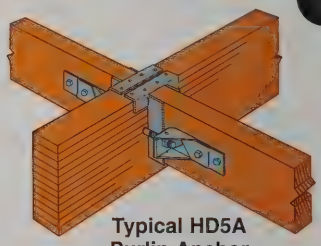
To achieve table loads, the minimum bolt end distance is seven bolt diameters. This distance is designed into holdowns. Bolt end distance may be increased, provided the anchor nut is not over-torqued, which could split the stud. Deflection values may be higher.



Typical HD15 Holdown Installation



Typical HD5A Holdown Installation with SSTB anchor bolt. Washers are not required at the base.



Typical HD5A Purlin Anchor Installation

Model No.	Material		Dimensions							Fasteners			Avg Ult	Allowable Loads [1,8,9,11] (133)						Holdown [12] Deflection at Highest Allowable Design Load
	Base Ga	Body Ga	HB [5]	SB	W	H	B	SO	CL	Anchor Dia [6,10]	Stud Bolts			Length of Bolt [2,3,4] in Vertical Wood Member						
											Qty	Dia		1½	2	2½	3	3½	5½	
HD2A	7	12	4 5/16	2½	2¾	8	2 5/16	⅜	1 7/16	⅝	2	⅝	12150	1555	2055	2565	2775	2775	2760	0.058
HD5A	3	10	5¼	3	3⅛	9 7/16	3 5/16	½	2 3/16	⅝ or ¾	2	¾	20767	1870	2485	3095	3705	4010	3980	0.067
HD6A	⅜	7	6 3/16	3½	3¼	11 1/16	3 7/16	9/16	2 1/16	⅞	2	⅞	27333	2275	2980	3685	4405	5105	5510	0.041
HD8A	⅜	7	6 3/16	3½	3¼	14 9/16	3 7/16	9/16	2 1/16	⅞	3	⅞	28667	3220	4350	5415	6465	7460	7910	0.111
HD10A	⅜	7	6 3/16	3½	3¼	18 1/16	3 7/16	9/16	2 1/16	⅞	4	⅞	28667	3945	5540	6935	8310	9540	9900	0.269
HD14A	⅜	3	7	4	3½	20 9/16	3 5/8	⅝	2 3/16	1	4	1	38167	—	—	—	—	11080	13380	0.215
HD20A	⅜	3	7	4	4¼	20 13/16	4⅛	⅞	2⅜	1¼	4	1	51333	—	—	—	—	11080	13380	0.250
HD15	⅜	3	7	4	3½	24½	4 7/16	3⅝	2⅛	1¼	5	1	55333	—	—	—	—	—	15305	0.082

1. Allowable loads have been increased 33% for earthquake or wind loading with no further increase allowed; reduce where other loads govern.
2. HD15 requires a minimum 6x6 nominal post.
3. Use a minimum 4x6 nominal post for the HD14A and the HD20A.
4. The wood member must be sized for the load-carrying capacity at the critical net section, reducing the gross section area for holes or other removed wood as specified in the code.
5. HB is the required minimum distance from the end of the stud to the center of the first stud bolt hole. End distance may be increased as necessary for installation.
6. The designer must specify anchor bolt type, length and embedment. See SSTB Anchor Bolts and Additional Anchor Designs.
7. See page 32 for anchor bolt retrofit.
8. Lag bolts will not develop the listed loads.
9. Holdowns installed raised off the mudsill may have larger deflection values. Use the PHD or HDQ for raised applications.
10. Full tension loads apply when HD5A is used with a ⅝" anchor bolt.
11. See pgs 6, 7 for testing and other important information.
12. Deflection at Highest Allowable Design Load: The deflection of a holdown measured between the anchor bolt and the strap portion of the holdown when loaded to the highest allowable load listed in the catalog table. This movement is strictly due to the holdown deformation under a static load test conducted on a steel jig.

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Extensive SSTB testing has been done to determine the design load capacity at a common application, the garage stem wall. Design loads are based on the lowest ultimate, from a series of five tests, with a three-times safety factor.

SPECIAL FEATURES: • Rolled threads for higher tensile capacity.
- Offset angle reduces side-bursting, provides more concrete cover.
- Stamped bolt head for identification after pour.
- Stamped embedment line aids installation.
- Configuration results in minimum rebar interference.

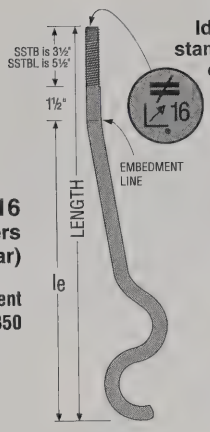
INSTALLATION: • SSTB is used for monolithic and two-pour installations.
- Nuts and washers are not supplied with the SSTB; install standard nuts, couplers and/or washers as required.

REINFORCED CONCRETE FOUNDATION
- Install SSTB before the concrete pour using an MKP or Anchor Mate (see page 29). Install the SSTB diagonally at approximately 45° from the wall. Install one #4 rebar 3" to 5" from the top of the foundation.
- **The SSTB does not need to be tied to the rebar.**
- Minimum concrete compression strength is 2500 psi. Unless noted otherwise, no special inspection is required for foundation concrete when the structural design is based on concrete no greater than 2500 psi (1997 Uniform Building Code, section 1701.5.1).
- Use 90% of the table load for 2000 psi concrete.

REINFORCED CONCRETE BLOCK
- Before concrete pour, install diagonally at approx. 45° in the cell.
- Horizontal #4 rebar (minimum 56" long)—approx. one rebar 12" from the top and two rebars approx. 28" from the top. Vertical #4 rebar (minimum 24" long)—install with maximum 24" o.c. spacing.
- Grout all cells with minimum 2000 psi concrete. Vibrate the grout per the 1997 Uniform Building Code, section 2104.6.2.

OPTIONS: Available in hot-dip galvanized; consult factory.

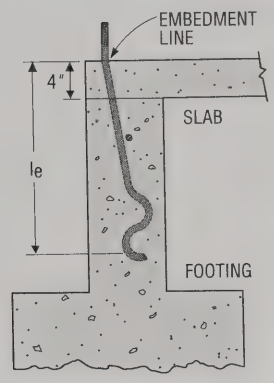
CODES: ICBO 4935, City of L.A. RR 25248 for concrete foundation only.



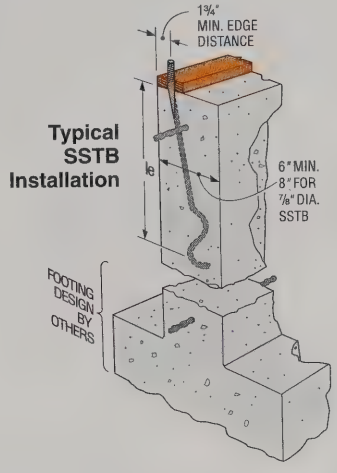
Identification stamp showing embedment angle

SSTB16 (others similar)

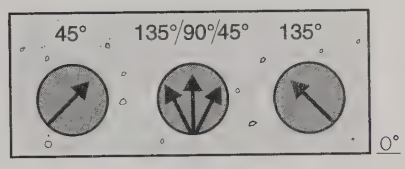
U.S. Patent 5,317,850



Double Pour Installation (SSTB20, 24 and 34)



Typical SSTB Installation



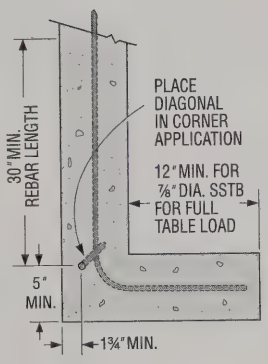
Plan View of SSTB Placement in Concrete Stemwall

SELECTION TABLE

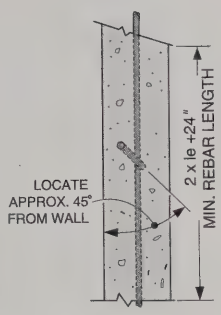
Model No.	2x, 3x, 2-2x Sill Plates	
	Mono Pour	Two Pour
PHD2,[1] HD2A, LTT20B, LTTI31, HTT16, HD5A	SSTB16	SSTB20
PHD5,[1] MTT28B	SSTB20	SSTB24
HTT22, HDC5/22, HDC5/4	SSTB24	—
PHD6,[1] PHD8,[1] HD6A, HD8A, HD10A, HDQ8, HDC10/22, HDC10/4	SSTB28	SSTB34

1. SSTBL models are recommended for PHD holdowns on 2-2x and 3x sill plates.

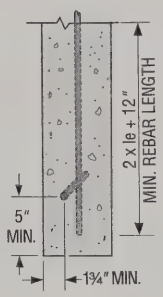
TYPICAL PLAN VIEWS OF REBAR INSTALLATION



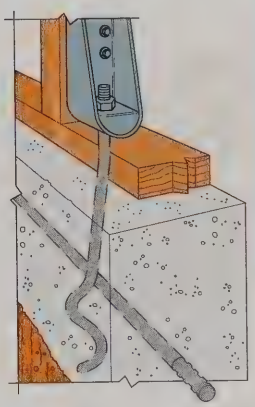
Corner Installation



Continuous Stemwall



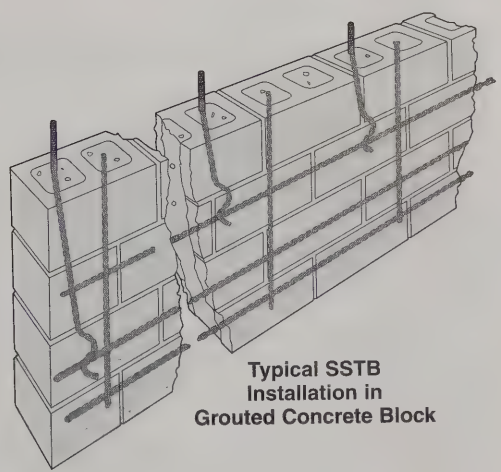
End Wall



Typical SSTB Installation with mudsill and holdown

Model[7] No.	Stemwall Width	Dia	Length	Min Embed l_e	Avg Ult	Allowable Tension Load (133) [1,2]		
						Concrete [4] f'c = 2500 psi	Concrete Block	Concrete Block End
SSTB16	6	⅝	17⅝	12⅝	13640	4420	4780	1850
SSTB20	6	⅝	21⅝	16⅝	14745	4600	4780	1850
SSTB24	6	⅝	25⅝	20⅝	14745	5175	4780	1850
SSTB28	8	⅞	29⅞	24⅞	32700	10100	6385	4815
SSTB34	8	⅞	34⅞	28⅞	32700	10100	6385	4815
SSTB36	8	⅞	36⅞	28⅞	32700	10100	6385	4815

1. Loads may not be increased for short-term loading. Loads apply to earthquake and wind loading.
2. Minimum anchor center-to-center spacing is 2le for anchors acting in tension at the same time for full load.
3. The SSTB was tested in a stem wall with a minimum amount of concrete cover.
4. Maximum allowable load is 8150 lbs. for SSTB28, 34 and 36 when used 5" from the end of a concrete foundation. Use full table load when installed 24" from the end or installed in a corner condition (see illustration).
5. Connection is limited by the lowest of bolt or holdown capacity.
6. PHD minimum end distance is 4⅜". Minimum end distance for Strong-Wall™ shearwalls is 3⅞".
7. Order the SSTBL models for longer thread length (5½"). SSTBL and SSTB loads are the same.



Typical SSTB Installation in Grouted Concrete Block

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LTT/MTT/HTT TENSION TIES

Tension Ties are ideal for retrofit or new construction and provide post-pour, concrete-to-wood connections.

The HTT22 is a single-piece formed tension tie—no rivets, and a 4-ply formed seat which won't unfold during loading. No washers required. The LTT19 Light Tension Tie is designed for 2x joists or purlins and the LTT20B is for nail- or bolt-on applications. The 3" nail spacing makes the LTT20B suitable for wood I-joists if 10dx1½" nails are substituted for the specified 16d's. Use the MTT28B Medium Tension Tie for heavier connections.

The LTTI31 is designed for wood chord open web truss attachments to concrete or masonry walls.

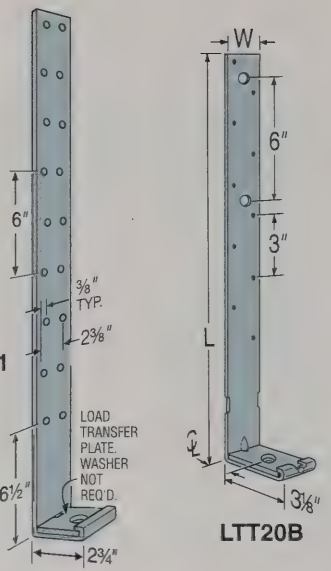
MATERIAL: See table

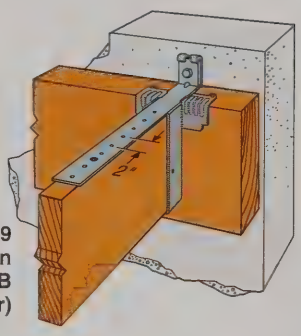
FINISH: Galvanized. MTT28B may be ordered HDG; check factory.

INSTALLATION: • Use all specified fasteners. See General Notes.

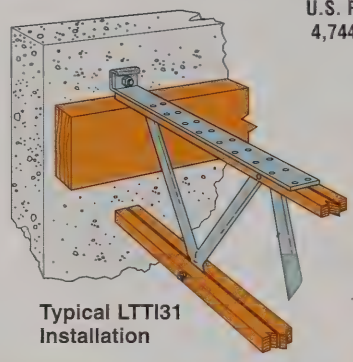
- Use the specified number and type of nails to attach the strap portion to the bottom or side of purlin or beam (minimum 4x width (2-2x4 or 4x4), except LTT19). Bolt the base to the wall or foundation with a suitable anchor; see table for the required bolt diameter.
- The HTT22 can have a maximum offset of 2" from the stud face to the centerline of the anchor bolt.
- Do not install LTT, MTT tension ties raised off the mudsill.
- See Epoxy-Tie Adhesive System, pages 32 and 33 for tested, load-rated epoxies for anchor bolt options.

CODES: BOCA, ICBO, SBCCI No. NER-393 and NER-432; ICBO 5313; City of LA RR 24818 and RR 25318.

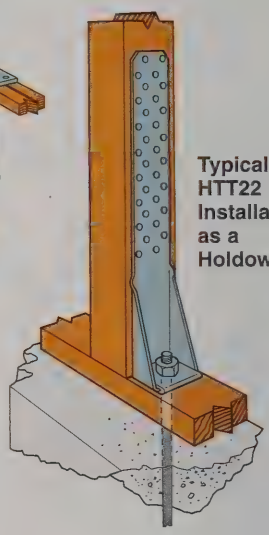




Typical LTT19 Installation (LTT20B similar)



Typical LTTI31 Installation



Typical HTT22 Installation as a Holdown

Model No.	Material (Ga)		Dimensions			Fasteners				Avg Ult Tension	Allowable Tension Loads[4]				Deflection[5] at Highest Allowable Design Load
	Strap	Plate	W	L	C_L	Anchor Bolts	Nails	Bolts			(133)		(160)		
								Qty	Dia		Nails	Bolts	Nails	Bolts	
LTT19	16	3	1¾	19⅛	1⅜	¾	8-16d Sinkers	—	—	4250	1205	—	1350	—	0.107
LTT20B[7]	12	3	2	19¾	1⅜	½, ⅝ or ¾	10-16d	2	½	8733	1750	1220	1750	1460	0.164
LTTI31	18	3	3¾	31	1⅜	⅝	18-10dx1½	—	—	7770	2185	—	2310	—	0.125
HTT16	11	—	2½	16	1⅜	⅝	18-16d	—	—	13150	3480	—	4175	—	0.037
HTT22	11	—	2½	22	1⅜	⅝	32-16d Sinkers	—	—	13150	5250	—	5260	—	0.087
MTT28B	12	7	2⁷⁄₁₆	27	1½	⅝ or ¾	24-16d	4	½	—	4455	2150	4455	2725	0.125

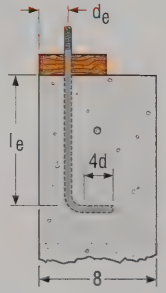
1. Allowable loads for HTT are based on the lower of the 1997 NDS fastener values or the ultimate load on a steel test jig divided by 2.5.
2. 16d sinkers (9 ga x 3¼") or 10d commons may be substituted for the specified 16d commons at 0.84 of the table loads.
3. The designer must specify anchor bolt type, length and embedment.
4. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.
5. Bolt values are based on a minimum lumber thickness of 1½".
6. See HDA for deflection at highest allowable design load definition.
7. If a ½" or ⅝" anchor bolt is used for the LTT20B, add a standard cut washer to the seat. No additional washer is required for a ¾" anchor bolt. See table for appropriate anchor bolt sizes.
8. HTT22 holdown installed off the plate has a reduced load of 5190 lbs. The HTT16 installed off the plate will achieve 4175 lbs. Both holdowns may have larger deflection values.
9. For Hem-Fir values, request T-Hemfir.

ADDITIONAL ANCHOR DESIGNS

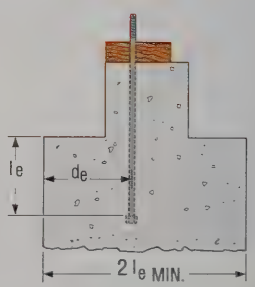
Anchor[2] Type	Dimensions				Minimum Concrete Strength (psi)	Allowable Tension Load (133)
	Dia	Min l_e[1,3]	d_e	Min End Dist		
A	1	36	2¾	5	2500	9795
A	1¼	36	2¾	5	2500	12900
B	1, 1¼	8	8	8	3000	15305

1. Anchor embedment length is based on a single-pour concrete foundation. Double pour foundation systems, masonry walls and masonry footings must be evaluated by the designer.
2. Anchor bolt B must be ASTM A307; anchor bolt A must be A36 steel or better.
3. Spacing between anchors is 2le min. for anchors in tension at the same time.
4. "A" bolt minimum end distance is for corner with 12" return only (similar to SSTB28, see Typical Rebar Placement, Corner Installation). Otherwise, the minimum end distance is le for the full table load.

See SSTB, page 25. Anchor types shown are made by others and used with Simpson Strong-Tie® holdowns. **The design engineer may specify an alternate anchorage system, provided the anchor diameter is the same.** See the Prestressed Concrete Institute Design Handbook (Ed. 3), Sec. 6.5.2.



Anchor Type A L-Bolt. Bend without cracking the outside of the bend portion. Place #4 rebar 3" to 5" from the top center of the foundation.



Anchor Type B Hex-Head Bolt. Design loads for Anchor Type B are calculated using a full shear cone. Multiple reductions must be taken for corner and edge distance conditions.

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Wood-to-concrete and -concrete block connectors that satisfy code requirements. The PA's Dual Embedment Line allows installation in concrete or concrete block.

MATERIAL: PA—12 gauge; HPA—10 gauge.

FINISH: Galvanized. Some products available HDG or Z-MAX.

INSTALLATION: • Minimum concrete strength is 2000 psi.

- Use all specified fasteners; some models have extra fastener holes. See General Notes.
- Purlin Anchor must hook around rebar.
- Wood splitting may occur when anchor is nailed to wood less than 3½" wide. For widths less than 3½", see PAHD Holdowns for alternate nailing configurations, or PAI, CPAI.

EDGE DISTANCE—Minimum concrete edge distance is 5". Minimum concrete block left-to-right edge distance is 20".

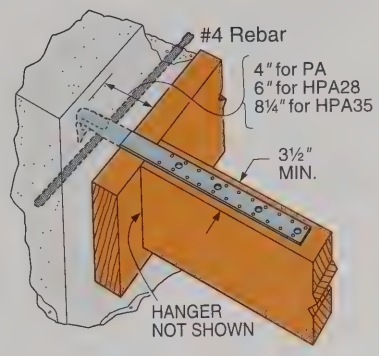
CONCRETE BLOCK WALLS—The masonry embedment line on PA and PATM allows for 4" of grout embedment in a standard 8" concrete masonry unit. The minimum wall specifications are: one # 4 vertical rebar, 32" long, at 32" o.c.; two courses of block above and below the anchor; a horizontal bond beam with two # 4 rebars, 40" long, a maximum of two courses above or below the anchor; all cells grouted with 2000 psi ⅜" aggregate grout. Grout shall be vibrated per the 1997 UBC section 2104.6.2.

OPTIONS: See LTT and HTT Tension Ties.

CODES: BOCA, ICBO, SBCCI NER-393 and NER-499.

The UBC Section 1633.2.8 states:

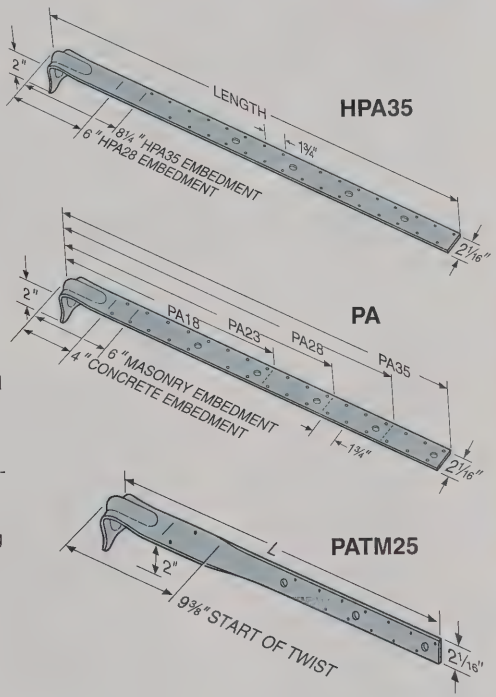
...In seismic zones 3 and 4, diaphragm to wall anchorage using embedded straps shall have the straps attached to or **hooked around the reinforcing steel**, or otherwise terminated to effectively transfer forces to the reinforcing steel...



PA/HPA Purlin to Concrete Wall

Model No.	L	Fasteners		Allowable Loads			
		Masonry	Concrete	Masonry		Concrete	
				(133)	(160)	(133)	(160)
Maximum Capacity							
PA18	18½	10-16d	12-16d	1880	2255	2255	2705
PA23	23¾	16-16d	18-16d	2815	2815	3385	3480
PA28	29	18-16d	20-16d	2815	2815	3590	3590
PA35	35	18-16d	20-16d	2815	2815	3590	3590
HPA28	21½	—	24-16d	—	—	4845	4845
HPA35	38½	—	27-16d	—	—	5420	5420
PATM25	28¾	13-16d	—	2335	2335	—	—
1¾ LVL and 3x Ledger							
PA18	18½	10-16d	12-16d	1880	2255	2255	2705
PA23	23¾	15-16d	18-16d	2815	2815	3385	3480
PA28	29	15-16d	20-16d	2815	2815	3590	3590
PA35	35	15-16d	20-16d	2815	2815	3590	3590
HPA28	21½	—	24-16d	—	—	4845	4845
HPA35	38½	—	27-16d	—	—	5420	5420
PATM25	28¾	13-16d	—	2335	2335	—	—
4x Ledger							
PA18	18½	8-16d	11-16d	1505	1805	2070	2480
PA23	23¾	15-16d	17-16d	2815	2815	3195	3480
PA28	29	15-16d	20-16d	2815	2815	3590	3590
PA35	35	15-16d	20-16d	2815	2815	3590	3590
HPA28	21½	—	27-16d	—	—	4845	4845
HPA35	38½	—	27-16d	—	—	5420	5420
PATM25	28¾	13-16d	—	2335	2335	—	—

1. Minimum penetration for 16d commons is 1 15/16".
2. 16d sinkers (9 gauge x 3¼") or 10d commons may be substituted for the specified 16d commons at 0.85 of the table loads.
3. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load durations according to the code.
4. The PATM is designed to be installed at a 2° angle. Less load will be developed at steeper angles.
5. PATM25 load installed with 3-½" machine bolts is 2335 lbs. The bolt values assume minimum lumber thickness of 2½".



J/JP FLOOR BEAM LEVELERS

Jack piers and standard floor beam levelers offer unique leveling simplicity during and after construction.

MATERIAL: 12 gauge plates, ¾" threaded rod, 1 1/16" O.D. steel pipe

FINISH: None. Connectors installed in damp areas, or corrosive environments that are not exposed to rain or periodic washing, will deteriorate at a faster rate. Corrosion-resistant finishes and maintenance can improve the connector's service life.

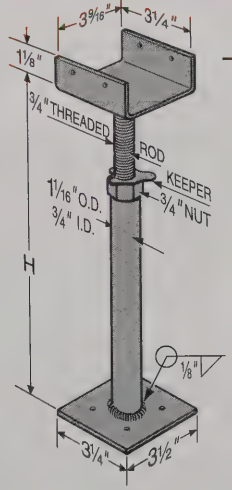
INSTALLATION: • Use all specified fasteners. See General Notes.

- Holes are provided for installation with 10dx1½" nails.
- Do not use J/JPs for dynamic jacking of structures, such as houses.

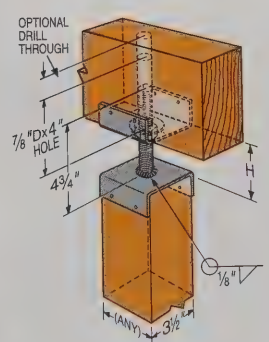
CODES: BOCA, ICBO, SBCCI NER-413. City of LA RR 25119.

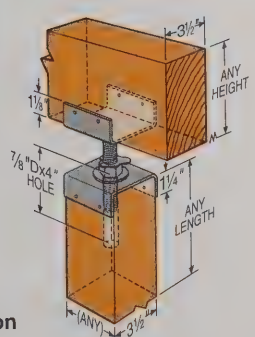
Model No.	Dimensions		Allowable Bearing Loads (100)
	H (inches) (Min–Max)	Threaded Rod Length	
JP44	2-4	4¾	4440[1]
J57	5-7	4	4380
J813	8-13	8	4380

1. Consider allowable loads for 4x4 post.
2. Loads may not be increased for short-term loading.



J Floor Beam Leveler





Two Methods of JP Installation

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LSTHD/STHD STRAP TIE HOLDOWN

SIMPSON Strong-Tie CONNECTORS

The STHD is an embedded strap tie holdown with high load capacity and a staggered nail pattern to help minimize splitting.

FEATURES: • The strap nailing pattern allows for nailing to the edges of double 2x's.
- A slot below the embedment line allows for increased front to back concrete bond and reduced spalling.
- Strap nail slots are countersunk to provide a lower nail head profile.
- Rim joist models accommodate up to a 17" clear span without any loss of strap nailing. Diamond holes for optional attachment to rim joist.
- Coined edges enhance safe handling.

MATERIAL: LSTHD8, LSTHD8RJ—14 ga, all others—12 ga. **FINISH:** Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.
- See Post Tension information on page 31.
- **Install before concrete pour with a StrapMate, or other holding device.**
- Nail strap from the bottom up. **Strap may be bent one full cycle.**
- Bending the strap 90° to aid wall placement may cause spalling behind the strap. If the spall is 1" or less, measured from the embedment line to the bottom of the spall, full loads apply. For spalls between 1" and 4" (see illustration), the allowable load is 0.90 of the table loads.
- Where fewer fasteners are used in the structural wood member, reduce loads according to the code.
- Unless otherwise noted, do NOT install where:
  (a) a horizontal cold joint exists within the embedment depth between the slab and foundation wall or footing beneath, unless provisions are made to transfer the load, or the slab is designed to resist the load imposed by the anchor; or
  (b) slabs are poured over concrete block foundation walls.
- To get the full table load, the minimum center-to-center spacing is twice the embedment depth when resisting tension loads at the same time.
- There is an increase in the amount of deflection if the strap is installed on the outside of the shear panel versus under the shear panel directly to the framing. Ask for Form T-PLYWOOD for complete details.

FOUNDATION CORNERS: Nail quantities may be reduced for less than l_e corner distance design loads—use the code allowable loads for fasteners in shear.

CODE: ICBO 5349.

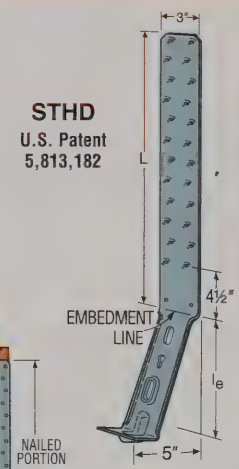
NEW SPALL REDUCTION SYSTEM FOR THE STHD AND HPAHD

FEATURES
- Secures holdown to wood form-board.
- Allows for proper side-cover.
- Keeps strap vertical.
- Prevents tilting or twisting of strap during the concrete pour.
- Uses one 16d duplex nail.

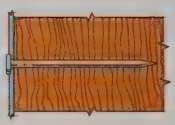
BENEFITS
- Greatly reduces spalling and costly retrofits.
- Prevents strap movement parallel and perpendicular to plate.
- Decreases possibility of misinstallation of strap to wood member.
- Simple to use
  – Common jobsite nail.
  – No additional expense.



New Keyhole Feature
Patent Pending

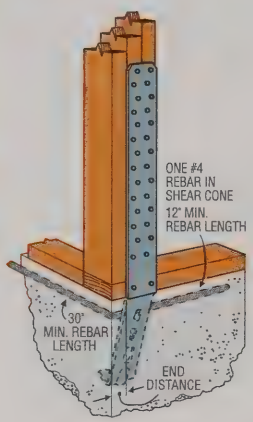


STHD
U.S. Patent 5,813,182



Nails are countsunk for a low profile strap surface.

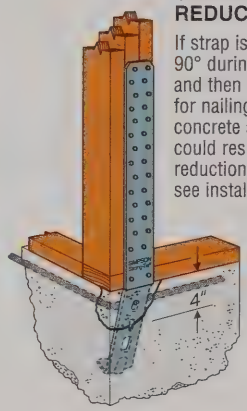
Use diamond holes to pre-attach the strap.

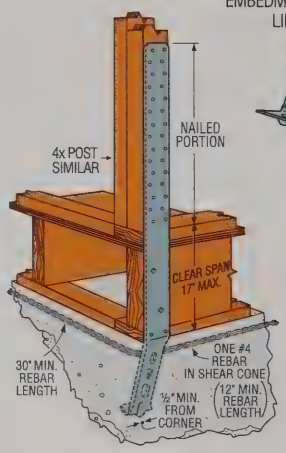


Typical STHD Corner Installation on 3-2x studs (for 2 pour, see footnote 4.)

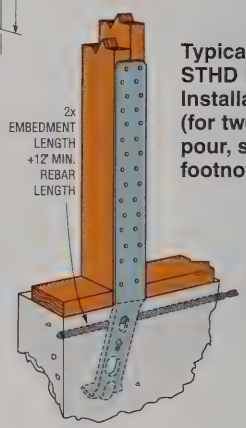
SPALLING LOAD REDUCTION!

If strap is bent horizontal 90° during installation, and then bent vertical for nailing to the stud, concrete spalling could result. Load reductions may apply, see installation note.





Typical STHD14RJ Rim Joist Application



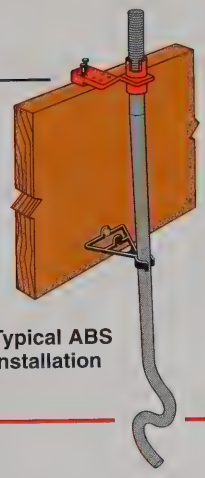
Typical STHD Edge Installation (for two pour, see footnote 4.)

Model No. Standard / Rim Joist	Min Stem Wall	Strap Length (L) Std Model	Strap Length (L) Rim Joist Model	l_e	Nails	Avg Ult @ 2000 psi l_e	Allowable Loads (133 & 160) End Distance ½"[4]	1½"	l_e	½"	1½"	l_e	½"	1½"	l_e
							2000 psi Concrete			2500 psi Concrete			3000 psi Concrete		
LSTHD8 / LSTHD8RJ	6	2⅛	3⅛	8	24-16d sinker	5918	1695	1695	1695	1825	1825	1825	1950	1950	1950
STHD8 / STHD8RJ	6	2⅛	3⅛	8	24-16d sinker	7167	1760	2050	2345	1950	2210	2385	2135	2370	2425
STHD10 / STHD10RJ	6	2⅜	3⅝	10	28-16d sinker	10555	2035	2575	3185	2610	2880	3185	3185	3185	3185
STHD14 / STHD14RJ	6	3⅛	3⅝	14	38-16d sinker	15080	3235	4220	4805	3800	4295	4805	4365	4365	4805
LSTHD8 / LSTHD8RJ	8	2⅛	3⅛	8	24-16d sinker	5918	1695	1695	1695	1825	1825	2335	1950	1950	2975
STHD8 / STHD8RJ	8	2⅛	3⅛	8	24-16d sinker	7577	2370	2370	3195	2370	2370	3195	2370	2370	3195
STHD10 / STHD10RJ	8	2⅜	3⅝	10	28-16d sinker	11780	2745	2745	3725	2990	2990	3725	3230	3230	3725
STHD14 / STHD14RJ	8	3⅛	3⅝	14	38-16d sinker	17453	3885	4430	5785	4160	4430	5785	4430	4430	5785

1. 'RJ' after the model indicates STHDs for rim joist applications, e.g. STHD8RJ.
2. STHD14RJ requires 30-16d sinkers, with the (le) load at 133% of 4960 lbs.
3. 10d commons or 12d common nails may be used with no load reduction.
4. For two pour with 4" slab or less. The STHD14 load at ½" edge 2000psi is 3235. The STHD10 at the same condition is 2035.
5. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load durations according to the code.
6. For Hem-Fir values, request T-Hemfir.

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NEW ABS ANCHOR BOLT STABILIZER



Typical ABS Installation



ABS Anchor Bolt Stabilizer

U.S. Patent Pending

NEW! The ABS stabilizes the bolt against the force of the concrete during the concrete pour.

FEATURES:

- Keeps the SSTB bolts from moving due to the force of the concrete
- Supports the bolt approx. 8" below the top of the concrete
- Model ABS5/8 is for the 5/8 SSTB and ABS7/8 is for the 7/8 SSTB
- Thin section limits the effect of a cold joint
- Sized for 2x4 and 2x6 mudsills

MATERIAL: Engineered Composite Plastic.

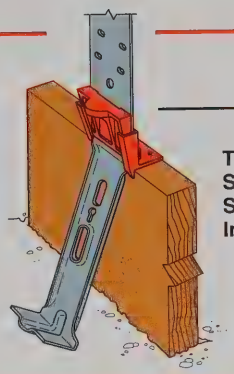
STRAPMATE™ STRAP HOLDER

The StrapMate is designed to keep the STHD, LSTHD, HPAHD and PAHD straps vertically aligned during the concrete pour. The friction fit allows for quick and easy installation.

- The StrapMate is reusable.
- Works with STHD, LSTHD, HPAHD, PAHD.

MATERIAL: Engineered Composite Plastic.

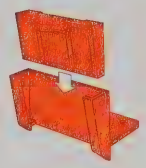
- Designed to fit ¾" plywood forms up to 1¾" LVL forms and larger.
- Strap is positioned off the front edge of the form board.



Typical StrapMate Strap Holder Installation

U.S. Patent Pending

Model No.	Nails
SM1	2-8d duplex



StrapMate Strap Holder

ANCHORMATE™ ANCHOR BOLT HOLDERS

Designed to hold the anchor in place before the concrete pour, as required in some jurisdictions.

- Built-in 2x4 and 2x6 stops eliminate measuring.
- Elevated bolt grippers allow easy trowel finishing.
- Color-coded for easy size identification.
- Lightweight, durable and easy to use.
- Reusable yet cost-efficient for single application.
- Threaded grippers hold each bolt in the exact same location and height. They secure bolt in place without nut for quicker set-up and tear-down, and protect threads from splashing concrete.
- Use the 5/8" and 7/8" AnchorMate to secure the SSTB to the formboard before the concrete pour. Alignment arrows (left or right) match the SSTB bolt head arrow.
- Available in color coded buckets of 100 parts or bags of 10 parts.

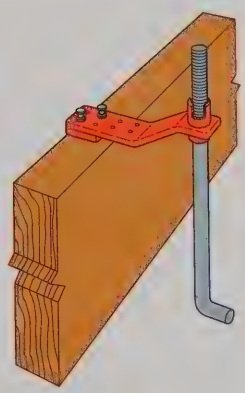
MATERIAL: Engineered Plastic Composite.



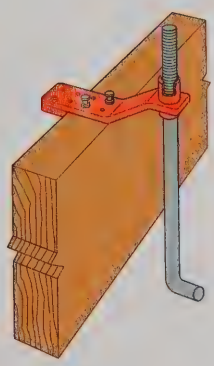
AnchorMate Anchor Bolt Holder

U.S. Patent 6,065,730

Model No.	Dia	Color
AM ½	½	Yellow
AM ⅝	⅝	Blue
AM ¾	¾	Red
AM ⅞	⅞	Green



Typical AnchorMate Installation for a 2x6 mudsill



Typical AnchorMate Installation for a 2x4 mudsill

MKP™ MONKEY PAW™ ANCHOR BOLT HOLDERS

Use the MKP5/8 to install the SSTB16, 20 and 24; MKP7/8 for SSTB28, SSTB34 and SSTB36; other sizes fit commonly-used anchor bolts.

SPECIAL FEATURES: • The MKP may be used several times.

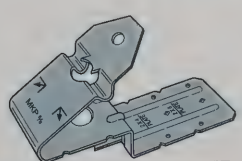
- Stabilizes bolt by providing three-point support against lateral concrete pressure.
- Alignment arrows (left or right) match the SSTB bolt head arrow.
- Stamped for 2x4 or 2x6 mudsill placement.
- No nut required to hold bolt in place.
- When removed, the MKP cleans the bolt thread of concrete.

MATERIAL: MKP½, MKP5/8 MKP¾,—16 gauge; all others—14 gauge

FINISH: Galvanized

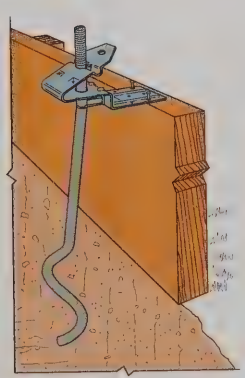
INSTALLATION: • Attach SSTB to the MKP. Line up MKP arrows with SSTB bolt head arrows for diagonal installation at approximately 45° from the wall.

- Align bottom tab of MKP with SSTB embedment line.
- Use 2x4 or 2x6 notches to match the mudsill size.
- After concrete pour, allow concrete to cure. Remove the MKP by squeezing the top and bottom together, lifting and twisting off.



MKP5/8 (other sizes similar) U.S. Patent 5,670,076

Model No.	Bolt Dia	Mudsill Size
MKP½	½	2x4 2x6
MKP⅝	⅝	
MKP¾	¾	
MKP⅞	⅞	
MKP1	1	
MKP1⅛	1⅛	
MKP1¼	1¼	



MKP attached to formboard with SSTB in position before the concrete pour

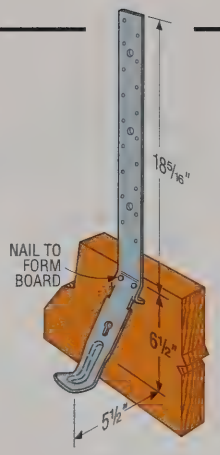
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PA/PAHD/HPAHD HOLDOWNS

Wood-to-concrete connectors that satisfy engineering and code requirements.
MATERIAL: HPA—10 gauge x 2 1/16"; all others—12 gauge x 2 1/16"
FINISH: Galvanized. Selected products available in Z-MAX coating; see page 5.
INSTALLATION: • Use all specified fasteners. See General Notes.

- See StrapMate, page 29, for attachment to form board.
- Bending the strap 90° to aid wall placement may cause spalling behind the strap. If the spall is 1" or less, measured from the embedment line to the bottom of the spall, full loads apply. For spalls between 1" and 4" (see illustration), the allowable load is 0.90 of the table loads.
- Where fewer fasteners are used in the structural wood member, reduce loads according to the code. A wood splitting problem may occur when holdowns are nailed to lumber less than 3½" wide. To lessen splitting of 3x's or double 2x's, either fill every nail hole with 10dx1½" nails or fill every other nail hole with 16d commons. Reduce the allowable load based on the size and quantity of fasteners used.
- Unless otherwise noted, do NOT install where: (a) a horizontal cold joint exists within the embedment depth between the slab and foundation wall or footing beneath, unless provisions are made to transfer the load, or the slab is designed to resist the load imposed by the anchor; or (b) slabs are poured over concrete block foundation walls.
- To get the full table load, the minimum center-to-center spacing is twice the embedment depth when resisting tension loads at the same time.
- There is an increase in the amount of deflection if the strap is installed on the outside of the shear panel versus under the shear panel directly to the framing. Ask for Form T-PLYWOOD for complete details.

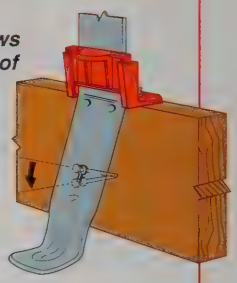
FOUNDATION CORNERS: Nail and bolt quantities have been reduced when the load is limited by tested concrete pullout strength (fill holes from bottom up); additional nail holes need not be filled. Nail and bolt quantities may be reduced further for less than 8" corner distance design loads—use code allowable loads for fasteners used in shear.
TWO-POUR SYSTEMS: When a cold joint exists between slab and foundation, the holdown will be lower on the stud wall since the embedded portion of the holdown must be in the foundation (see table footnote 1 for exception). Fewer fasteners are used, reducing allowable loads. Loads are calculated using a 4" slab over 6" and 8" foundation walls.
PAHD42, HPAHD22, HPAHD22-2P HOLDOWNS: Designed to be installed at the edge of concrete. Tests determined the pullout strength with one horizontal #4 rebar in the shear cone. Rebar should be a minimum length of 2x embedment depth + 12" (except corner installations, page 31). Install before pouring concrete by nailing to form. Installation holes allow nailing to the form, resulting in 1" deeper embedment; see illustration.
OPTIONS: See also HDA Holdowns, LTT, MTT, HTT Tension Ties.
CODES: BOCA, ICBO, SBCCI NER-393 and NER-469.



Typical PAHD42 before the Concrete Pour (HPAHD22-2P and HPAHD similar)

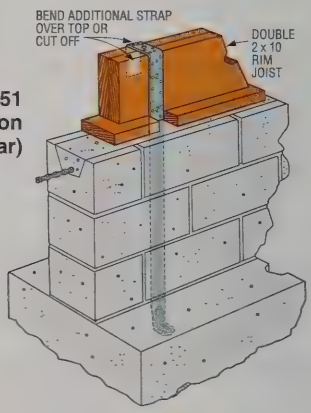
SPALL REDUCTION SYSTEM FOR THE STHD AND HPAHD NEW

Keyhole feature allows attachment of duplex nail before the concrete pour to hold the STHD and HPAHD Strap-Ties in place. (see page 28)



Model No.	L	Min. Embed. Depth	Nails	Allowable Uplift Loads (133)	Allowable Uplift Loads (160)
PA51	51	4	9-16d	1690	2030
PA68	70	4	9-16d	1690	2030

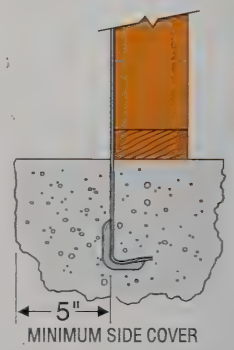
1. Loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.
2. 16d sinkers (9 ga x 3¼") or 10d commons may be substituted for the specified 16d commons at 0.85 of the table loads.
3. Optional fastener holes provided. Calculate loads according to the code to a maximum of 3685 lbs. Minimum embedment is 4"; 5" to the nearest edge.



Typical PA51 Installation (PA68 similar)

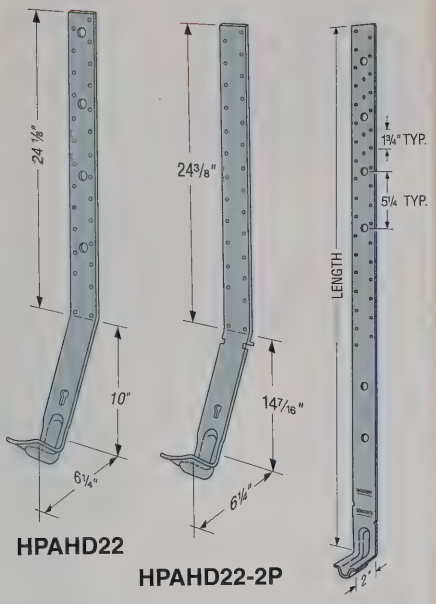
Model No.	Min Stem Wall	Le	Nails	Avg Ult 2000 psi 8"	Allowable Loads (133 & 160) 2000 psi Concrete ½" 133	2000 psi Concrete ½" 160	2000 psi Concrete 8" 133	2000 psi Concrete 8" 160	2500 psi Concrete ½" 133	2500 psi Concrete ½" 160	2500 psi Concrete 8" 133	2500 psi Concrete 8" 160
SINGLE POUR												
PAHD42	6	6½"	12-16d	5891	920	920	1960	1960	920	920	2205	2205
	8		16-16d	8555	1050	1050	2620	2620	1050	1050	2945	2945
HPAHD22	6	10"	16-16d	9494	1315	1315	2965	2970	1315	1315	3330	3335
	8		23-16d	14420	2030	2030	4065	4590	2030	2030	4570	5160
DOUBLE POUR												
PAHD42	6	6½"	12-16d	5891	920	920	1960	1960	920	920	2205	2205
	8		12-16d	8555	1050	1050	2005	2405	1050	1050	2255	2705
HPAHD22	6	10"	16-16d	9494	1315	1315	2965	2970	1315	1315	3330	3335
	8		19-16d	14420	2030	2030	3360	4030	2030	2030	3775	4530
HPAHD22-2P	6	14 7/16"	16-16d	9494	2030	2030	2830	2970	2030	2030	3180	3335
	8		23-16d	14420	2030	2030	4065	4590	2030	2030	4570	5160

1. HPAHD22 may be embedded 4" into the slab and 6" into the 8" stemwall beneath for a maximum load of 2810 lbs. at 8" minimum from the closest corner, and 1200 lbs. at ½" from the closest corner (like installation 4).
2. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load durations according to the code.
3. 16d sinkers (9 ga x 3¼") or 10d commons may be substituted for specified 16d commons at 0.84 of table loads.
4. Minimum nail end distance to prevent splitting is 10x the nail diameter, or 1 5/8" for 16d nails.
5. Calculate loads using straight line interpolation for corner distances between ½" and 8".
6. Optional fastener holes are provided on selected products. Because the product is limited by the concrete foundation, you may not need to install optional fasteners.
7. Strap may be bent one full cycle.
8. Rim Joist application: see Installation 3 for corner condition.



Typical PA connecting Stud to Foundation (use PAHD42 or HPAHD22 for edge applications)

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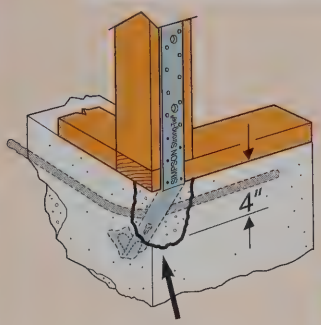


HPAHD22

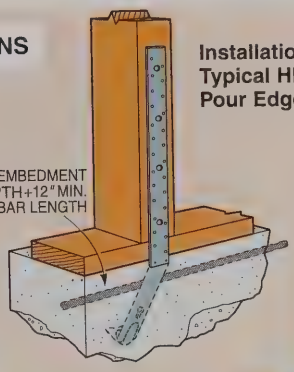
HPAHD22-2P

PA51
(PA68 similar)

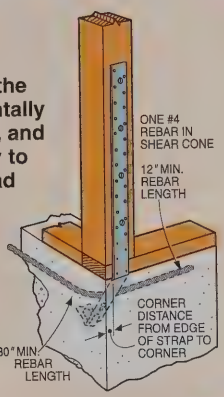
SINGLE POUR INSTALLATIONS



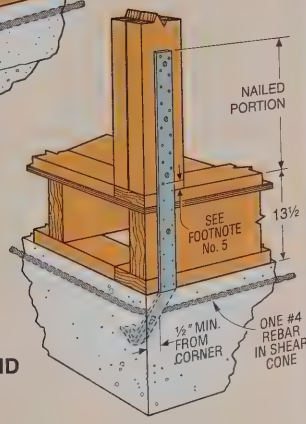
Misinstallation!
Spalling may occur if the anchor is bent horizontally 90 before installation, and then bent up vertically to attach to the stud. Load reduction may apply.



Installation 1
Typical HPAHD Single Pour Edge Installation



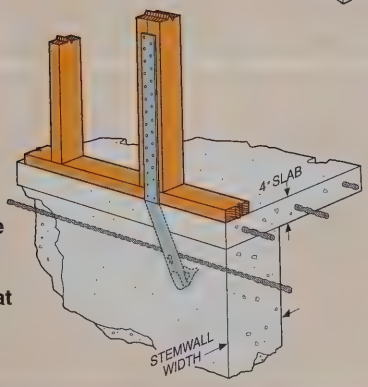
Installation 2
Typical HPAHD Single Pour Corner and Endwall Installation

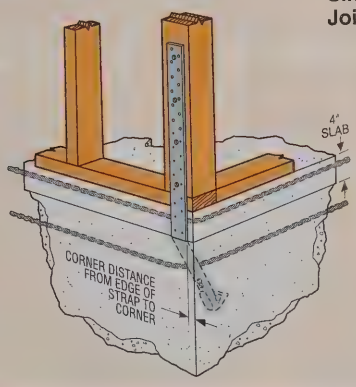


Installation 3
Typical HPAHD Single Pour Rim Joist Installation

DOUBLE POUR INSTALLATIONS

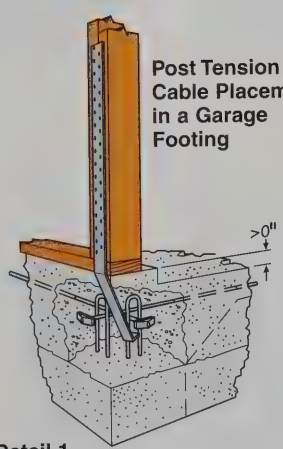
Installation 4
Typical HPAHD22-2P Double Pour Edge Installation
Unless noted, install others with bend embedment line at cold joint between slab and foundation.





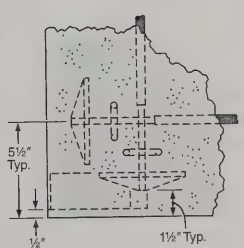
Installation 5
Typical HPAHD Double Pour Corner Installation

POST-TENSION INFORMATION

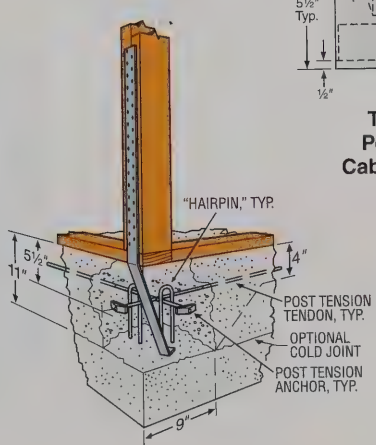


Post Tension Cable Placement in a Garage Footing

Detail 1
When installed on a raised curb, use Stemwall installation and loads (page 30) (rebar required).



Top View of Post Tension Cable Placement



Detail 2
Post Tension Cable Placement Corner Installation (no rebar required)

DETAIL 2

Model No.	Distance from Corner	Fasteners	Allowable Uplift Loads (133)
HPAHD22	1/2" Min	13-16d	2705
	8" Min	23-16d	4570
LSTHD8/ LSTHD8RJ	1/2" Min	24-16d sinkers	1695
	8" Min	24-16d sinkers	1695
STHD8/ STHD8RJ	1/2" Min	24-16d sinkers	2055
	8" Min	24-16d sinkers	2345
STHD10/ STHD10RJ	1/2" Min	28-16d sinkers	2055
	10" Min	28-16d sinkers	3185

1. Minimum concrete strength is 2500 psi.
2. Post-tension steel is 1/2" diameter, 7-wire, low-relaxation strand in accordance with ASTM A416, Grade 270 ksi, with a guaranteed ultimate strength of 41.3 k.
3. Anchorage is monostrand-type anchor system with current ICBO approval using a ductile iron casting of at least 2.25" x 4.5" of bearing and reusable pocket formers on all stressing ends.
4. It is the designer's responsibility to provide reinforcement to tie cold-joints and to resist bending stresses in the foundation due to anchor uplift.

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ANCHOR SYSTEMS – SET/ET/AT *HIGH STRENGTH EPOXIES*

SIMPSON Strong-Tie CONNECTORS

Request our Anchor Systems Catalog for complete information.

Simpson Strong-Tie now offers two types of high-strength adhesive anchoring cartridge systems. Epoxy-Tie adhesives are two-component, low-odor, 1:1 ratio, 100% solids epoxy based adhesives. Simpson's new Acrylic-Tie is a two-component, 10:1 ratio, acrylic based adhesive. Acrylic-Tie's innovative chemistry allows easy dispensing, cure at temperatures down to 0° F, as well as fast cure at temperatures at or above 40°F. Both systems feature simultaneous dispensing of resin and hardener/initiator through a static mixing nozzle.

APPLICATION: • Surfaces to receive adhesive should be clean.

- Adhesives should not be installed in or through standing water.
- For dependable results, Acrylic-Tie should be applied to dry surfaces.
- For epoxy products, the base material temperature must be 40° F or above at the time of application. For best results the adhesive should be 70-80° F at the time of application.
- For Acrylic-Tie the base material must be 0° or above at the time of installation.
- To warm cold epoxy cartridges before use, place them in a uniformly heated area for a sufficient time to allow epoxy to warm completely. Do not immerse the cartridges in water to facilitate warming.
- Mixed epoxy material in the nozzle can harden in 7-10 minutes at 40° F. Mixed acrylic material can harden in the nozzle in 5-7 minutes.

INSTALLATION (Epoxy-Tie and Acrylic-Tie): • Drill hole to specified diameter and depth.

- Remove dust from the hole with oil-free compressed air. Clean with nylon brush and blow out remaining dust. Dust left in the hole will reduce the adhesive's holding capacity.
- Before using, dispense a bead of adhesive off to the side to check for proper mixing, indicated by a uniform gray color. Fill hole halfway, starting from the bottom of the hole to avoid air pockets. Withdraw nozzle as hole fills up.
- Anchors must be clean and oil-free. Insert anchor, turning slowly until the anchor hits the bottom of the hole. Do not disturb while setting.

CODES: • ICBO ER-5279 (SET); ER-4945 (ET); City of L.A. RR 25279 (SET); RR 25185 and RR 25120 (ET); SBCCI 9706 (SET); 94145 (ET); Dade Co., FL. 96-0730.04 (SET &ET); AT code reports pending.

Cure Time

Concrete Temp	0° F	25° F	40° F	60° F	80° F	100° F
AT	24 hrs	8 hrs	4 hrs	1 hr	25 min	20 min
SET	—	—	72 hrs	24 hrs	20 hrs	16 hrs
ET	—	—	72 hrs	24 hrs	24 hrs	12 hrs

Sill Plate Shear Loads Based on Concrete Strength

Stud Dia	Drill Bit Dia	Min Embed	Edge Dist	End Dist	Avg. Ult Shear Load	Allow. Shear Load f'c ≥ 2000 psi
Parallel to Plate						
½	⅝	4¼	1¾	8½	8496	2125
⅝	¾	5	1¾	10	8857	2215

1. The allowable load for the anchor will be the lesser of the wood bearing capacity or concrete strength.



Edge and end distances for threaded rod in concrete stemwall corner installation

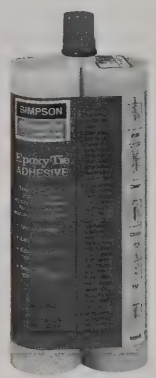
Tension Loads for Threaded Rod Anchors in Concrete Foundation Stemwall Installation

Stud Dia	Drill Bit Dia	Min Embed	Min Wall Thick-ness	Min Edge Dist	Min End Dist	Avg Ult Tension Load	Allowable Tension Load f'c ≥ 2000 psi (100)	(133)
SET								
⅝	¾	10	6	1¾	5	23000	5750	7665
⅞	1	15	8	1¾	5	33600	8400	11200
ET								
⅝	¾	9½	6	1¾	5	10720	2680	3565
		12	6	1¾	5	16160	4040	5375
⅞	1	12½	8	1¾	5	17000	4250	5650
		15½	8	1¾	5	23340	5835	7760

Loads in Solid Concrete

Rod Dia In.	ET/SET Drill Bit Dia In.	AT Drill Bit Dia In.	Embed Depth In.	Tension Load based on Bond Strength f'c ≥ 2000 psi concrete						Load based on Steel Strength A307 (SAE 1018)	
				SET		ET		AT		Shear	Tension
				Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Allowable lbs.	Allowable lbs.
⅜	½	7/16	1¾	1900	475	—	—	—	—	—	2105
			2½	—	1365						
			3½	10200	2550	8776	2195	8937	2235	1085	
½	⅝	9/16	2⅛	7216	1805	—	—	—	—	—	3750
			2¾	—	2575						
			3½	—	3500						
			4¼	17700	4425	15368	3840	16668	4165	1930	
⅝	¾	11/16	2½	6780	1695	—	—	—	—	—	5875
			3½	—	3690						
			4½	—	5185						
			5	26700	6680	22876	5720	—	—	3025	
			5½	—	—	—	—	26025	6505	—	
¾	⅞	13/16	3⅜	15456	3865	—	—	—	—	—	8460
			4½	—	6085						
			5¾	—	8550						
			6¼	—	9540						
			6¾	42100	10525	35460	8865	37616	9405	4360	
⅞	1	1	3⅞	19120	4780	—	—	—	—	—	11500
			5	—	6960						
			6¼	—	9380						
			7	—	10840						
			7¾	49160	12290	43596	10900	42848	10710	5925	
1	1⅛	1 1/16	4½	20076	5020	—	—	—	—	—	15025
			5¾	—	7795						
			7	—	10570						
			8	—	12795						
			9	60060	15015	47332	11835	60504	15125	7740	

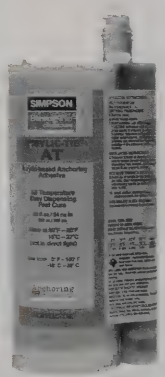
1. Allowable loads are based on a safety factor of 4.
2. Allowable load is the lesser of the load based on bond strength or steel strength.
3. Allowable loads can be increased 33% for earthquake or wind loading, no further increase allowed.
4. The anchors cannot be used to resist pullout forces in overhead and wall installations, unless proper consideration is given to fire conditions.
5. Reference Simpson Anchor Systems catalog for spacing and edge distance requirements.



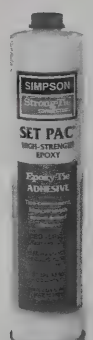
22 & 56 oz ET



22 & 56 oz SET



8, 13 & 30 oz AT



SET-PAC™ 10 oz.

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Request our Anchor Systems Catalog for complete information.

Benefits of the VGC Adhesive System:

No special tool required: just drill and clean holes; insert capsules and hammer in the anchor.

Pre-measured components assure the right amount of adhesive every time.

No waste, no guessing, one capsule for each anchor diameter makes estimating simple. Capsule can be inserted either end first.

Fast bolt-up time anchor is ready to use in 20 minutes (at 68 F and above).

Up to 1 year shelf life when stored at 60 F 80 F.

Loads for Threaded Rod Anchors in Concrete

Stud Dia (in)	VGC Capsule Model No.	Drill Bit Dia (in)	Embed Depth (in)	Spacing (in)	Edge Dist (in)	Tension Loads (lbs) f'c ≥ 2000 psi		Shear Load (lbs) f'c ≥ 2000 psi
						Bond Strength		Steel Strength
						Ultimate Load	Allowable Load	A307 Allowable Load
⅜	VGC37	7/16	3½	14	5¼	8750	2190	2105	1085
½	VGC50	9/16	4¼	17	6⅜	9653	2410	3750	1930
⅝	VGC62	11/16	5	20	7½	19048	4760	5875	3025
¾	VGC75	⅞	7	27	10⅛	28813	7200	8460	4360
⅞	VGC100	1	8	31	11⅝	29236	7310	11500	5925
1	VGC100	1⅛	8	36	13½	29236	7310	15025	7740



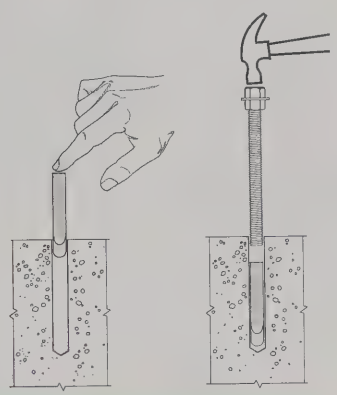
VGC

1. It is critical that holes be cleaned properly. One capsule per hole.
2. Allowable load must be the lesser of the bond or steel strength.
3. The allowable loads listed under allowable bond in the table are based on a safety factor of 4.0.
4. Reference Simpson Anchor Systems catalog for spacing and edge distance requirements.
5. Anchors shall not be used to resist tension forces in ceiling or wall installations unless special consideration is given to fire-exposure conditions.
6. 33 1/3% increase NOT allowed for short term loading due to wind or seismic forces.

Loads for Threaded Rod Anchors in Concrete Stemwall

Stud Dia. (in)	VGC Capsule	Drill Bit Dia. (in)	Embed. Depth (in)	W (in)	Edge Dist. (in)	End Dist. (in)	Tension Load (lbs) f'c ≥ 2000 psi	
							Ult. Load	Allowable Load
⅝	VGC62[1]	¾	12	6	1 ¾	5	13250	3310
⅞	VGC100[2]	1	15	8	1 ¾	5	20843	5210

1. Requires 3 capsules per hole.
2. Requires 2 capsules per hole.
3. It is critical that holes be cleaned properly.



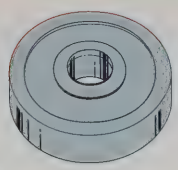
PLI PROOF LOAD INDICATORS

Request our Anchor Systems Catalog for complete information.

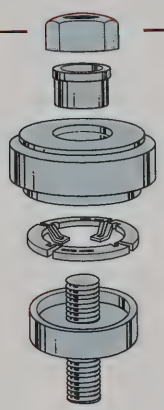
The proof load indicator can proof load the bolt to two times the design load. A positive means of load verification every time.

The PLI should not be used on masonry installation, epoxy to concrete applications only.

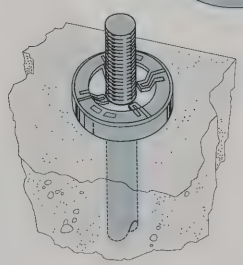
FINISH: Proof washers color coded for easy identification of tested load.



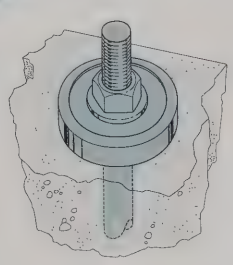
PLI
Patent Pending



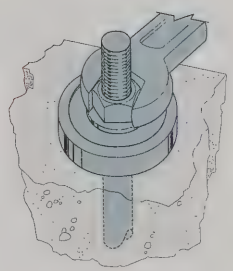
PLI Exploded View



Place bottom die with washer over existing anchor bolts.



Slide top die section over anchor bolt and attach nut.



Tighten nut to cut through washer. This will apply tension load.

ANCHOR SYSTEMS MECHANICAL ANCHORS

Request our Anchor Systems Catalog for complete information.

Simpson offers a full line of mechanical anchors to suit almost any application in numerous base materials. Below are examples of core products in the mechanical anchor product line. For information on the rest of the products, contact Simpson for a copy of the current Anchor Systems catalog (C-SAS2000).

Get the Rest of the Information on Simpson Anchor Systems

The information in this catalog is an introduction to Simpson Anchor Systems. You can get the rest of the technical information three ways:

Call Simpson Strong-Tie at (800) 999-5099 and request the current Simpson Anchor Systems Catalog (Form C-SAS2000)

For a full Simpson Anchor Systems Technical Manual (Form B-SAS2000), call Simpson and ask to speak with your local Technical Sales Representative. This binder features the Anchor Systems catalog in easy-to-use tabular format, as well as a complete set of code reports, MSDS sheets and more!

Visit the new Simpson Anchor Systems website at www.simpsonanchors.com. Here you can access technical and product application information, code reports, new product information and much more. E-Mail The Simpson Man for answers to your questions or check our Frequently Asked Questions section for the information you are looking for.

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CNW COUPLER NUTS

All-thread rod is correctly installed when visible through CNW's "witness" holes. CNW's dimple provides a positive stop to allow even bolt threading top and bottom.

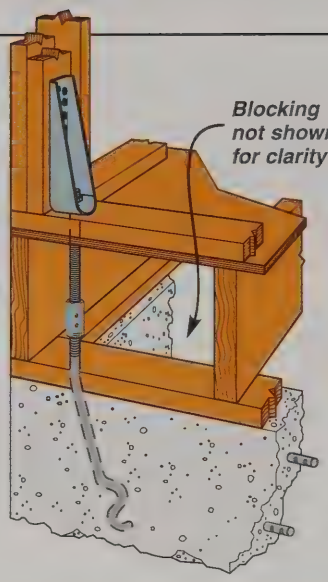
CNW's are tested and load-rated coupler nuts. They can be used for extending anchor bolts, for example, through floor framing. CNW's meet and exceed the capacity of corresponding ASTM A307, A36, SAE1018 and Grade 2 bolts and threaded rod.

CODES: Submitted to ICBO 10/99

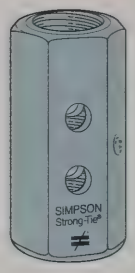
Model No.	Rod Dia.	H Min	Allowable Tension Loads
CN5/8W	0.625	1 7/8	5870
CN3/4W	0.75	2	8455
CN7/8W	0.875	2 3/16	11510

1. Allowable loads based on 1986 AISI Sec E3.4 bolt allowable loads.
2. CNW coupler nuts are tested to a minimum of 2.3 factor of safety on the allowable A307 load.

INSTALLATION: • Each rod must be threaded halfway through CNW.
• Each rod must meet at the center.
• Tighten the two rods against the central stop in the coupler nut.



Typical CNW Rim Joist Installation



CNW allows fast visual check for correct all thread rod installation

BP/LBP BEARING PLATES

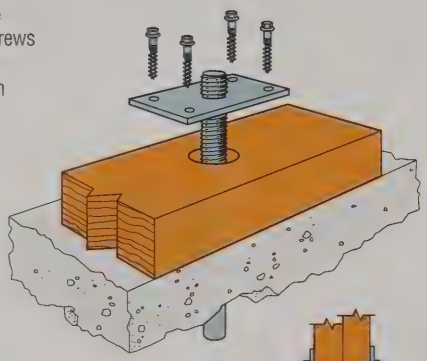
The BP5/8S uses SDS1/4 x 1 1/2 screws to provide lateral resistance when sill holes are overdrilled (screws are provided). The SDS shear capacity is 1160 lbs.

Bearing Plates give greater bearing surface than standard cut washers, and help distribute the load at these critical connections. BP Bearing Plates are designed to meet City of Los Angeles requirements for sill plate anchors and holdown stud anchors.

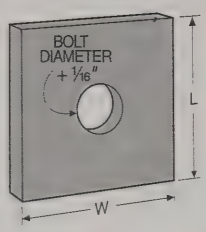
MATERIAL: See table
FINISH: LBP—galvanized; BP—none
INSTALLATION: See General Notes.
CODE: City of L.A. RR 25293 (BP).

Model No.	Thick-ness	Dimensions W	Dimensions L	Bolt Dia.
LBP1/2	9/64	2	2	1/2
LBP5/8	9/64	2	2	5/8
LBPS1/2	9/64	3	3	1/2
LBPS5/8	9/64	3	3	5/8
BP1/2	3/16	2	2	1/2
BP5/8-2	3/16	2	2	5/8
BP5/8S-SDS1/2	3 ga	4	2	5/8
BP5/8	1/4	2 1/2	2 1/2	5/8
BP3/4	5/16	2 3/4	2 3/4	3/4
BP7/8	5/16	3	3	7/8
BP 1	3/8	3 1/2	3 1/2	1

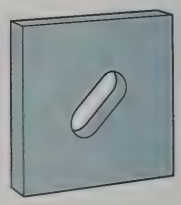
1. BP5/8S sold as a kit.
2. City of LA requires 2 1/2" square bearing for 5/8" bolt. UBC requires 2" square.



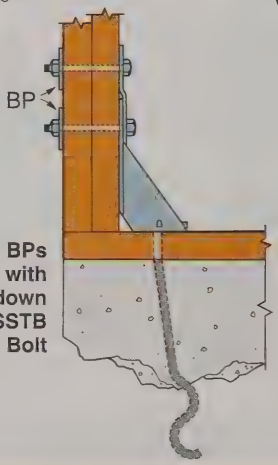
The BP5/8S is used when sill bolt holes are overdrilled



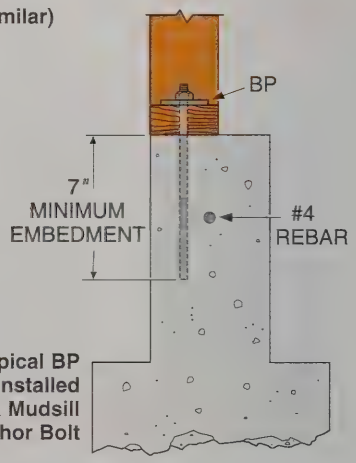
BP (LBP similar)



LBPS



Typical BPs Installed with a Holdown and SSTB Anchor Bolt



Typical BP Installed with a Mudsill Anchor Bolt

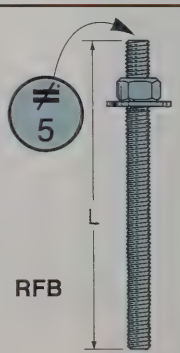
RFB RETROFIT BOLTS

RFBs are pre-cut threaded rod, supplied with nut and washer. May be ordered in bulk. Bulk does not come with nut and washer. Offers a complete engineered anchoring system when used with the Epoxy-Tie. Inspection is easy; the head is stamped with rod length and "No Equal" symbol for identification after installation.

MATERIAL: A307, Grade A.
FINISH: Zinc-plated
INSTALLATION: • Request T-HD for installation information.

Model No.	L	Stud Dia.	Embedm. Depth [2]	Min. End Dist	Min. Edge Dist	Compatible Products
RFB#4X5	5	1/2	3 1/2	1 3/4	1 3/4	AB44, 46, 66, 44R, 46R, 66R; ABA44, 44R; ABE44, 44R
RFB#4X6	6	1/2	4 1/4	1 3/4	1 3/4	FA6, 8; HFA6, 8; FAP; FJA; FSA
RFB#4X7	7	1/2	4 1/4	3 1/4	3 1/4	LTT20B, UFP10
RFB#4X10	10	1/2	4 1/4	3 1/4	1 3/4	1/2" Dia. mudsill anchor bolts
RFB#5X5	5	5/8	3 1/2	2	1 3/4	ABA46, 66, 46R, 66R; ABE46, 66, 46R, 66R
RFB#5X8	8	5/8	5	3 3/4	3 3/4	—
RFB#5X10	10	5/8	7	7	1 3/4	5/8" Dia. mudsill anchor bolts
RFB#5X16'	16	5/8	12	5	1 3/4	HD2A, 5A; HTT22, PHD2, PHD5
RFB#6X10.5	10 1/2	3/4	6 3/4	5	3 5/8	LTT19; MTT28B

1. Maximum anchor load is 4040 lbs. 2. Embedment is based on 2000 psi concrete.



RFB

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AB/ABA/ABE/ABU/PBS ADJUSTABLE AND STANDOFF POST BASES

The AB is a fully-adjustable post base which offers moisture protection and finished hardware appearance.

Post Bases provide tested capacity. They feature 1" standoff height above concrete floors, code-required when supporting permanent structures that are exposed to the weather or water splash, or in basements. They reduce the potential for decay at post and column ends.

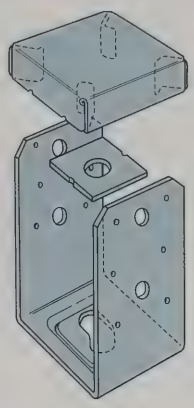
MATERIAL: AB—12 ga plates; 16 ga base cover; all others—see table.

FINISH: Galvanized. Some products available in Z-MAX; see Corrosion-Resistance, page 5.

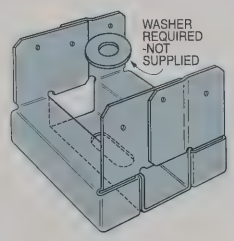
INSTALLATION: • Use all specified fasteners.See General Notes.

- Not recommended for non-top-supported installations such as fences.
- PBS embed into wet concrete up to the bottom of the 1" standoff base plate. A 2" minimum side cover is required to obtain the full load for PBS. Holes in the bottom of the PBS straps allow for free concrete flow.
- AB—Post nail holes are sized for 10d commons. Rectangular adjustment plate assumes ½" dia anchorage. Supplied as shown; position the post, secure the easy-access nut, then bend up the fourth side.
- AB, ABA, ABE and ABU—for pre-pour installed anchors. For epoxy or wedge anchors, select and install according to anchor manufacturer's recommendations; anchor diameter shown in table. Install required washer, which is not included for ABAs.
- See Anchor Systems for tested, load-rated epoxies.

CODES: BOCA, ICBO, SBCCI NER-393, NER-422, NER-432, NER-469, NER-499; City of L.A. RR 24818, RR 25064, 25074, 25158; Dade Co FL. 99-0713.05 (ABA, ABE).

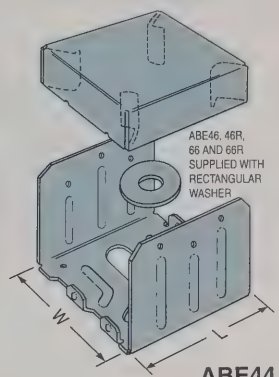


ABU44 (other sizes similar)

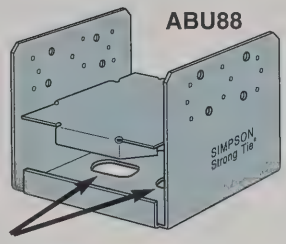


ABA44 (other sizes similar)

U.S. Patent 5,333,435

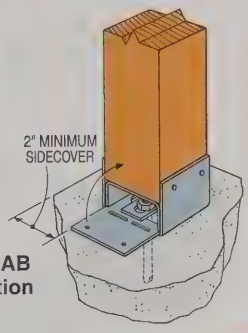


ABE44



ABU88

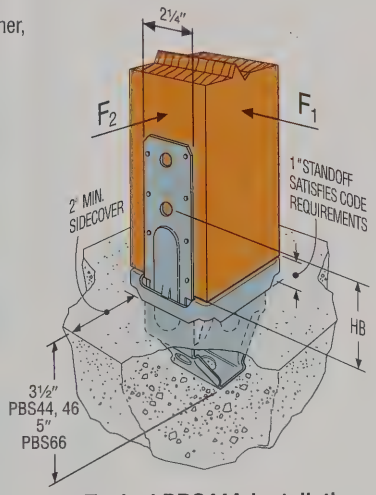
2 load transfer plates supplied



Typical AB Installation

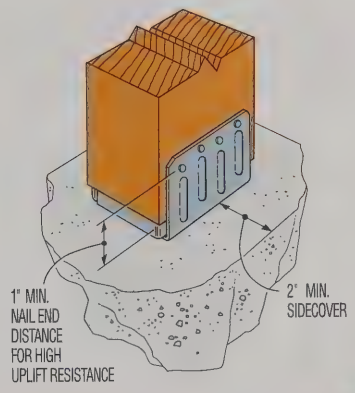
Model No.	Dimensions W	Dimensions L	Allowable Downloads (100)
AB44	3 3/16	3 3/16	4065
AB44R	4	4 1/16	4065
AB46	3 3/16	5 3/8	4165
AB46R	4	6	4165
AB66	5 1/2	5 9/16	5335
AB66R	6	6	5335

1. Loads may not be increased for short-term loading.

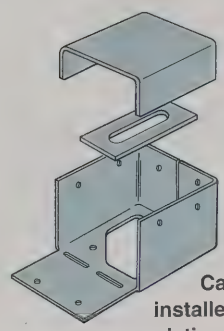


Typical PBS44A Installation

U.S. Patent 4,924,648



Typical ABE46R Installation for rough lumber (ABE similar)



AB Can be installed on existing slab

Model No.	Nominal Post Size	Material Base (Ga)	Material Strap (Ga)	Dimensions W	Dimensions L	Dimensions HB	Fasteners Anch. Dia	Fasteners Post Nails	Fasteners Post Bolts Qty	Fasteners Post Bolts Dia	Uplift Avg Ult	Allowable Loads Uplift (133) Nails	Uplift (133) Bolts	Uplift (160) Nails	Uplift (160) Bolts	F_1 (133 & 160) Nails	F_1 (133 & 160) Bolts	F_2 (133 & 160) Nails	F_2 (133 & 160) Bolts	Down (100)
ABA44	4x4	16	16	3 3/16	3 1/8	—	½	6-10d	—	—	2120	555	—	555	—	—	—	—	—	6000
ABE44	4x4	16	16	3 3/16	3 ½	—	½	6-10d	—	—	1893	520	—	520	—	—	—	—	—	6665
ABU44	4x4	16	12	3 3/16	3	1¾	⅝	12-16d	2	½	7833	2200	1800	2200	2160	—	—	—	—	6665
PBS44A	4x4	12	14	3 3/16	2¼	3 7/16	—	14-16d	2	½	7733	2400	2400	2400	2400	1165	230	885	885	6665
ABA44R	RGH 4x4	16	16	4 1/16	3 1/8	—	½	6-10d	—	—	2120	555	—	555	—	—	—	—	—	8000
ABE44R	RGH 4x4	16	16	4	3 ½	—	½	6-10d	—	—	1893	400	—	400	—	—	—	—	—	6665
ABE46	4x6	12	16	3 3/16	5 7/16	—	⅝	8-16d	—	—	5167	810	—	810	—	—	—	—	—	7335
PBS46	4x6	12	14	3 3/16	2¼	3 3/8	—	14-16d	2	½	7733	2400	2400	2400	2400	1165	360	885	885	9335
ABA46	4x6	14	14	3 3/16	5 3/16	—	⅝	8-16d	—	—	2967	700	—	700	—	—	—	—	—	9435
ABU46	4x6	12	12	3 3/16	5	2 5/8	⅝	12-16d	2	½	8633	2255	2300	2300	2300	—	—	—	—	10335
ABE46R	RGH 4x6	12	16	4 1/16	5 7/16	—	⅝	8-16d	—	—	5167	810	—	810	—	—	—	—	—	7335
ABA46R	RGH 4x6	14	14	4 1/16	5 3/16	—	⅝	8-16d	—	—	2967	935	—	935	—	—	—	—	—	12000
PBS66	6x6	12	12	5 ½	2¼	3 7/16	—	14-16d	2	½	13100	2630	3560	3160	4000	1865	570	1700	1700	9335
ABA66	6x6	14	14	5 ½	5¼	—	⅝	8-16d	—	—	3050	720	—	720	—	—	—	—	—	10665
ABE66	6x6	12	14	5 ½	5 7/16	—	⅝	8-16d	—	—	4833	900	—	900	—	—	—	—	—	12000
ABU66	6x6	12	10	5 ½	5	1¾	⅝	12-16d	2	½	8900	2300	2300	2300	2300	—	—	—	—	12000
ABA66R	RGH 6x6	14	14	6	5 3/16	—	⅝	8-16d	—	—	3050	985	—	985	—	—	—	—	—	12665
ABE66R	RGH 6x6	12	14	6 1/16	5 7/16	—	⅝	8-16d	—	—	4833	900	—	900	—	—	—	—	—	12000
ABU88[4]	8x8	12	14	7 ½	7	—	2-⅝	18-16d	—	—	12893	2320	—	2320	—	—	—	—	—	24335
ABU88R	RGH 8x8	12	14	8	7	—	2-⅝	18-16d	—	—	12893	2320	—	2320	—	—	—	—	—	24335

1. Uplift and lateral loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed. Reduce by 33% and 60% for normal loading.
2. Downloads may not be increased for short-term loading.
3. Specifier to design concrete for shear capacity.
4. ABU88 may be installed with 8-SDS¼X3 wood screws for the same table load.

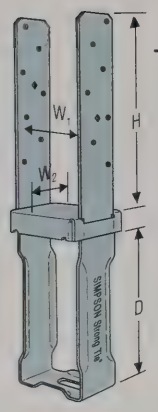
Catalog C-2001 © Copyright 2000 SIMPSON STRONG-TIE CO., INC.

CBSQ POST BASES

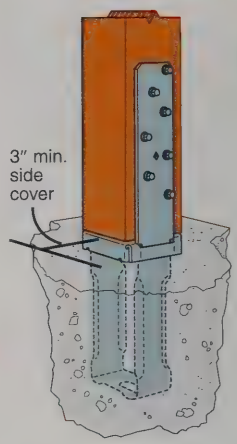
The CBSQ uses Simpson's SDS screws, which allows for fast installation, reduced reveal and high capacity, while maintaining the net section of the post.
MATERIAL: See table. **FINISH**: Galvanized
INSTALLATION: • Use all specified fasteners. See General Notes.
• Not recommended for non-top-supported installations such as fences.
CODES: Submitted to ICBO 10/99.

Model No.	Nominal Post Size	Material		Dimensions				Number of Simpson SDS¼ x 2" Screws	Uplift Avg Ult	Allowable Loads		
		Base (Ga)	Strap (Ga)	W_1	W_2	D	H			Uplift (133)	Uplift (160)	Down (100)
CBSQ44-SDS2	4x4	12	10ga x 2¼	3⁹⁄₁₆	3½	7¹⁄₁₆	8³⁄₈	14	16667	5335	5335	10975
CBSQ44-SDS2	4x6	12	10ga x 3	3⁹⁄₁₆	3⁹⁄₁₆	7¾	8¹¹⁄₁₆	14	16667	5335	5335	14420
CBSQ44-SDS2	6x6	12	10ga x 3	5½	5½	6⅞	8¾	14	24000	5710	6855	14420

1. For higher downloads, solidly pack grout under 1" standoff plate before installing CBSQ into concrete. Base download on post or concrete, according to the code.



CBSQ-SDS2



Typical CBSQ-SDS2 Installation

CBQ and CBSQ

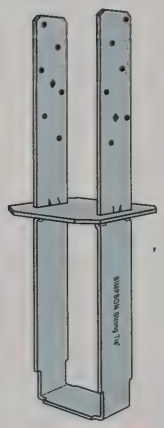
To order with screws, specify CBQ-SDS2 or CBSQ-SDS2.

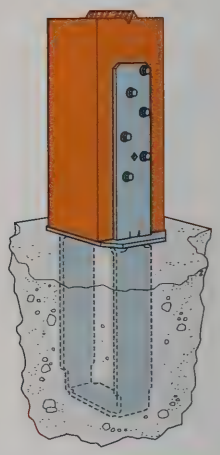
To order without screws, specify CBQ or CBSQ.

CBQ COLUMN BASES

The CBQ uses Simpson's SDS screws, which allows for fast installation, reduced reveal and high capacity, while maintaining the net section of the post.
MATERIAL: See table. **FINISH**: Galvanized.
INSTALLATION: • Use all specified fasteners. See General Notes.
• Not recommended for non-top-supported installations such as fences.
CODES: Submitted to ICBO 10/99.

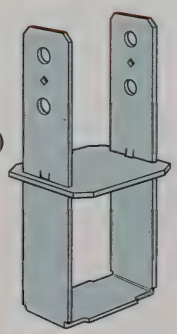
Model No.	Nominal Post Size	Material		Dimensions				Number of Simpson SDS¼ x 2" Screws	Uplift Avg Ult	Allowable Loads	
		Base (Ga)	Strap (Ga)	W_1	W_2	D	H			Uplift (133)	Uplift (160)
CBQ44-SDS2	4x4	7	7ga x 2	3⁹⁄₁₆	3⁹⁄₁₆	8	8¹¹⁄₁₆	12	14350	4200	4200
CBQ44-SDS2	4x6	7	7ga x 2	3⁹⁄₁₆	5½	8	8¹¹⁄₁₆	12	14350	4200	4200
CBQ44-SDS2	6x6	7	7ga x 2	5½	5½	8	8¹¹⁄₁₆	12	14350	4200	4200


CBQ-SDS2

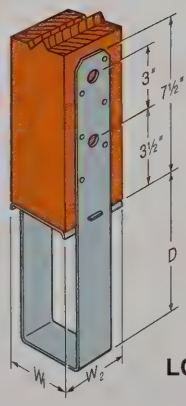

Typical CBQ-SDS2 Installation

LCB/CB COLUMN BASES

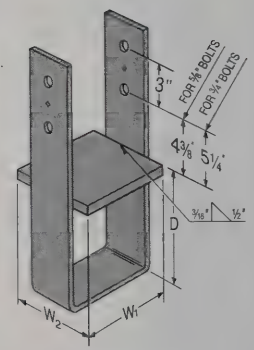
LCB—Low-cost post base for patios, carports, breezeways and porches.
CB—For columns that require high structural values and rugged performance.
FINISH: LCB, CB44, CB46, CB66—galvanized; CB-Simpson gray paint or HDG.
INSTALLATION: • Use all specified fasteners. See General Notes.
• For full loads, minimum side cover required is 3" for CB, 2" for LCB.
• Install all models with bottom of base plate flush with concrete.
• Not recommended for non-top-supported installations such as fences.
OPTIONS: • The LCB may be shipped unassembled; specify "Disassembled".
• LCB and CB are available in rough size. Other sizes available for CB specify W1 and W2 dimensions. Consult Simpson for bolt sizes and allowable loads. See PBS.
CODES: BOCA, ICBO, SBCCI NER-393; City of L.A. RR 24818.


CB44 (CB46, CB66 similar)

Model No.	Nominal Post Size	Material		Dimensions			Post Fasteners			Uplift average Ult	Allowable Uplift Loads			
		Strap	Base (Ga)	W_1	W_2	D	Nails	Bolts Qty	Bolts Dia		Nails (133)	Nails (160)	Bolts (133)	Bolts (160)
LCB44	4x4	12 ga x2	16	3⁹⁄₁₆	3½	6½	12-16d	2	½	17853	2255	2705	3545	4250
CB44	4x4	7 ga x2	7	3⁹⁄₁₆	3⁹⁄₁₆	8	—	2	⅝	14350	—	—	4200	4200
LCB46	4x6	12 ga x2	16	3⁹⁄₁₆	5½	6½	12-16d	2	½	17853	2255	2705	3530	4240
CB46	4x6	7 ga x2	7	3⁹⁄₁₆	5½	8	—	2	⅝	14350	—	—	4200	4200
CB48	4x8	7 ga x2	7	3⁹⁄₁₆	7½	8	—	2	⅝	14350	—	—	4200	4200
CB5	GLULAM	7 ga x3	7	5¼	SPEC	8	—	2	⅝	14350	—	—	4200	4200
LCB66	6x6	12 ga x2	16	5½	5½	5½	12-16d	2	½	17853	2255	2705	3525	4230
CB66	6x6	7 ga x3	7	5½	5½	8	—	2	⅝	14350	—	—	4200	4200
CB6-7	6x	7 ga x3	7	5½	7	8	—	2	⅝	14350	—	—	4200	4200
CB7⅛-4	PSL	3 ga x3	7	7⅛	3½	8	—	2	¾	20650	—	—	6650	6650
CB7⅛-6	PSL	3 ga x3	7	7⅛	5½	8	—	2	¾	20650	—	—	6650	6650
CB7⅛-7	PSL	3 ga x3	7	7⅛	7	8	—	2	¾	20650	—	—	6650	6650
CB68	6x8	7 ga x3	7	5½	7½	8	—	2	⅝	14350	—	—	4200	4200
CB86	6x8	3 ga x3	7	7½	5½	8	—	2	¾	20650	—	—	6650	6650
CB7	GLULAM	3 ga x3	7	6⅞	SPEC	8	—	2	¾	20650	—	—	6650	6650
CB88	8x8	3 ga x3	7	7½	7½	8	—	2	¾	20650	—	—	6650	6650
CB9	GLULAM	3 ga x3	7	8⅞	SPEC	8	—	2	¾	20650	—	—	6650	6650
CB1010	10x10	3 ga x3	3	9½	9½	8	—	2	¾	20650	—	—	6650	6650
CB1012	10x12	3 ga x3	3	9½	11½	8	—	2	¾	20650	—	—	6650	6650
CB1212	12x12	3 ga x3	3	11½	11½	8	—	2	¾	20650	—	—	6650	6650



LCB



Configuration of all other CB sizes

1. Uplift loads have been increased 33% and 60% for earthquake or wind loading, with no further increase allowed.
2. PSL is parallel strand lumber.
3. When ordering Glulam sizes, specify W_2.

Caps & Bases

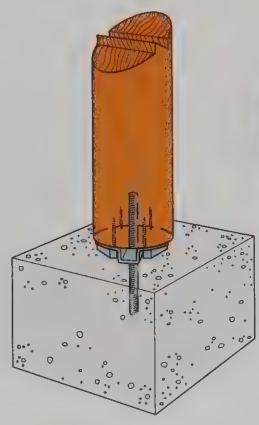
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PBV POST BASE

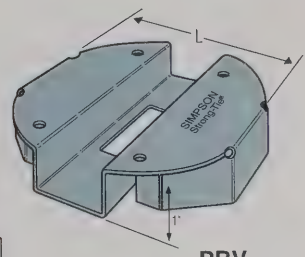
Simpson's hidden standoff post base for Viga posts. The PBV6 fits a 6" or 8" diameter viga post, and the PBV10 fits a 10" or 12" diameter post.
MATERIAL: 14 ga **FINISH**: Galv. or textured powder-coated flat black paint; check factory.
INSTALLATION: • **Footing installation:** Drill a ¾" hole 10" deep min. into the center of the viga post. Clean out dust. Half fill the hole with SET epoxy. Insert the all-thread rod, and allow epoxy to set. Slip PBV over the rod and secure to the post.
• Drill a ¾" hole 5" deep minimum into the center of the footing. Clean out dust. Half-fill the hole with SET epoxy. Insert the all-thread rod into the hole.
• **4" minimum slab installation**: Drill hole into viga post as noted above. Align post surface with edge of slab. Mark center of post on slab. Drill a ¾" hole 3½" deep into slab. Half fill the hole with SET epoxy. Insert the all-thread rod into hole.
• Not recommended for non-top-supported installation such as fences.

Model No.	L	Fasteners		Uplift Avg Ult	Allowable Loads	
		Post	Anchor Bolt		Uplift	Down
PBV6	5¼	4-SDS¼x3	⅝"	1880	2985	9250
PBV10	9³⁄₁₆	4-SDS¼x3	⅝"	2815	2985	15865

1. Uplift loads are increased 33% and 60% for earthquake or wind loading; no further increase allowed. Reduce by 33% and 60% for normal loading.
2. Download may not be increased for short-term loading.
3. Download based on 700 psi wood bearing for Ponderosa Pine.
4. Min edge dist. for table loads is 4¾".
5. For 4" slab, the allowable uplift load is 1580 lbs with 2¾" minimum edge distance.



Typical PBV6 Installation



PBV

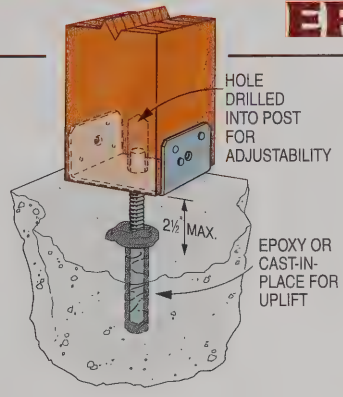
US Patent D 399,013

EPB44T ELEVATED POST BASES

The EPB44T fits 4x posts and beams. Adjustable up and down.
MATERIAL: 12 gauge base, threaded rod support ⅝" x 5" (shipped assembled)
FINISH: Base—G60 galvanized, threaded rod—zinc plate
INSTALLATION: • **Secured with epoxy**: Drill a ¾" hole 2½" deep min. into the concrete. Half fill the hole with epoxy. Insert the EPB44T and adjust to the desired height. To adjust after the epoxy cures, drill a hole in the center of the post and turn the post base up or down to the desired height.
• **Supported by a nut**: Drill a ¾" hole 2½" deep min. into concrete. Install a ⅝-11 NC nut and cut washer on the threaded rod. (Nut and washer not supplied). Insert EPB44T into the hole and adjust to the desired height.
• Embedded in wet concrete: Embed ⅝" rod minimum 4" embedment.
• Minimum sidecover is 3" from the center of the threaded rod.
• Fully engage at least three threads in the base.
• Not recommended for non-top-supported installations such as fences.
CODE: BOCA, ICBO, SBCCI NER-432.

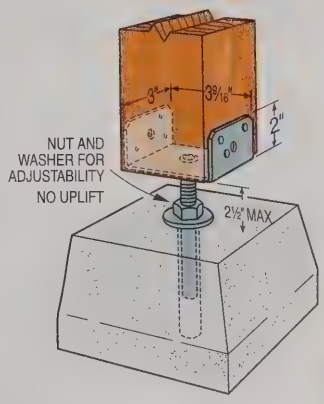
Model No.	Nails	Uplift Avg Ult	Allowable Loads			
			Uplift		Lateral	Down
			(133)	(160)	(133/160)	
EPB44T	6-16d	3703	1130	1140	410	3275

1. Loads may not be increased for short term loading.
2. Uplift & lateral loads require the threaded rod to be set in wet concrete or attached to cured concrete with epoxy.
3. Specifier to design concrete for shear capacity.



Typical EPB44T Installed with Epoxy

U.S. Patent 5,666,774



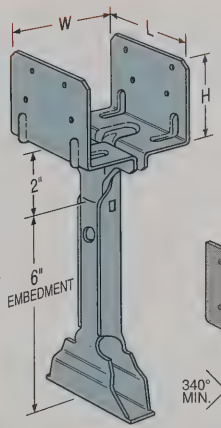
Typical EPB44T installed with nut and washer (not supplied)

EPB ELEVATED POST BASES

The EPB44A is a single-piece, non-welded elevated post base.
MATERIAL: EPB44A—14 ga.; others—12 ga. base plate, 1¹⁄₁₆" OD x 8" pipe
FINISH: EPB44A—Galvanized; all others—Simpson gray paint
INSTALLATION: • Use all specified fasteners. See General Notes.
• Allows 1" to 2½" clearance above concrete, 2" for EPB44A. Insert EPB into concrete after screeding.
• Not recommended for non-top-supported installations such as fences.
OPTIONS: 12" pipe available for EPB44, 46, 66; specify "-12" after model number.
CODES: BOCA, ICBO, SBCCI NER-393; City of L.A. RR 24818 (EPB).

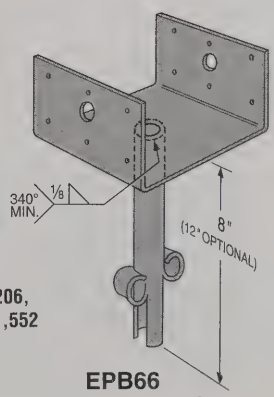
Model No.	W	L	H	Nails	Uplift Avg Ult	Allowable Loads			
						(133) and (160)			Down (100)
						Uplift	F_1	F_2	
EPB44A	3⁹⁄₁₆	3	2⅜	8-16d	3600	1100	815	935	2670
EPB44	3⁹⁄₁₆	3¼	2⁹⁄₁₆	8-16d	3600	800	985	1135	3465
EPB46	5½	3⁹⁄₁₆	3	8-16d	3600	800	985	1135	3465
EPB66	5½	5½	3	12-16d	—	1500	985	1135	3465

1. Loads may not be increased for short-term loading.
2. EPB44 and EPB46 have extra nail holes; only eight must be filled to achieve table loads.
3. Specifier to design concrete for shear capacity.

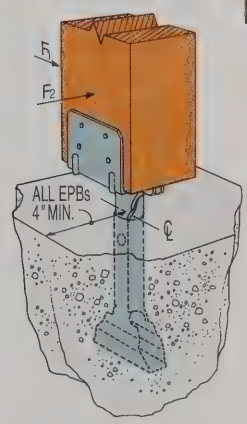


EPB44A

U.S. Patent 4,995,206, Canada Patent 2,031,552



EPB66 (EPB44 and EPB46 similar)



Typical EPB44A Installation

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PB POST BASES

Locking prongs eliminate bolts or inserts in concrete. The one-piece design assures maximum strength.

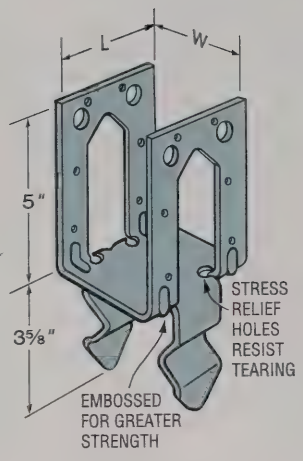
MATERIAL: 12 gauge. **FINISH**: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.
- Holes are provided for installation with either 16d commons or ½" bolts for PB66 and PB66R; all other models use 16d commons only.
- A 2" minimum sidecover is required to obtain the full load.
- Not recommended for non-top-supported installations such as fences.

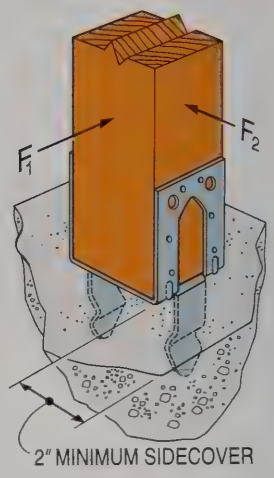
CODES: BOCA, ICBO, SBCCI NER-443; City of LA RR 25149.

Model No.	Dimensions		Uplift Avg Ult	Allowable Loads			
				12-16d Nails (133 & 160)			2-½MB
	W	L		Uplift	F_1	F_2	Uplift (133 & 160)
PB44	3⅜	3¼	4267	1365	765	1325	—
PB44R	4	3¼	4267	1365	765	1325	—
PB46	5½	3¼	4267	1365	765	1325	—
PB46R	6	3¼	4267	1365	765	1325	—
PB66	5½	5¼	5143	1640	765	1325	1640
PB66R	6	5¼	5143	1640	765	1325	1640

1. Allowable loads have been increased 33% and 60% for earthquake or wind loading, with no further increase allowed.



PB



Typical PB Installation

AC/LPC/LCE POST CAPS

The LCE4's universal design provides high capacity while eliminating the need for rights and lefts.

The AC MAX design allows for higher load capacity to match comparable post bases.

LPC—Adjustable design allows greater connection versatility.

MATERIAL: LCE4—20 ga; AC, ACE, LPC4—18 ga; LPC6—16 ga

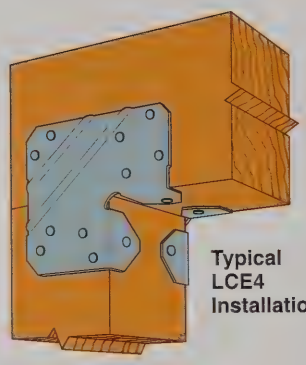
FINISH: Galvanized. Some products available with Z-MAX; see Corrosion-Resistance, page 5.

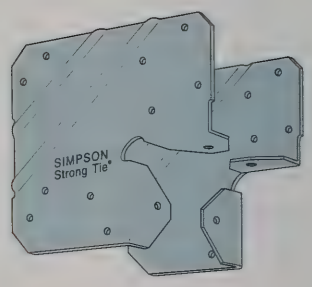
INSTALLATION: • Use all specified fasteners. See General Notes.
- Install all models in pairs. LPC—2½" beams may be used if 10dx1½" nails are substituted for 10d commons.

CODES: BOCA, ICBO, SBCCI NER-421, NER-443, NER-469; City of L.A. RR 25076; Dade County, FL 99-0623.04 (LPC) and Dade County, FL 99-0713.05 (AC, ACE).

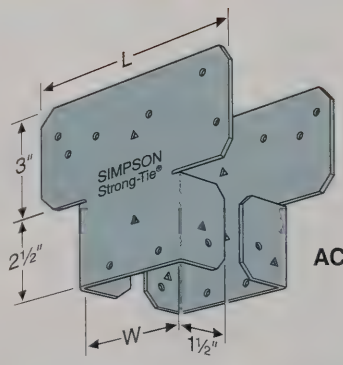
Model No.	Dimensions		Total No. Fasteners		Uplift Avg Ult	Allowable Loads (133 & 160)[1]	
	W	L	Beam	Post		Uplift	Lateral
AC4 MIN	3⅜	6½	12-16d	8-16d	4467	1430	715
AC4 MAX	3⅜	6½	14-16d	14-16d	10000	2500	1070
AC4R MIN	4	7	12-16d	8-16d	4467	1430	715
AC4R MAX	4	7	14-16d	14-16d	10000	2500	1070
ACE4 MIN	—	4½	8-16d	6-16d	—	1070	715
ACE4 MAX	—	4½	10-16d	10-16d	—	1785	1070
AC6 MIN	5½	8½	12-16d	8-16d	4467	1430	715
AC6 MAX	5½	8½	14-16d	14-16d	10000	2500	1070
AC6R MIN	6	9	12-16d	8-16d	4467	1430	715
AC6R MAX	6	9	14-16d	14-16d	10000	2500	1070
ACE6 MIN	—	6½	8-16d	6-16d	—	1070	715
ACE6 MAX	—	6½	10-16d	10-16d	—	1785	1070
LPC4	3⅜	3½	8-10d	8-10d	2333	760	325
LPC6	5⅝	5½	8-10d	8-10d	2817	915	490
LCE4	—	5⅜	14-16d	10-16d	5518	1800	1425

1. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load durations according to the code.
2. Loads apply only when used in pairs.
3. LPC lateral load is in the direction of the beam's axis.
4. MIN nailing quantity and load values – fill all round holes; MAX nailing quantities and load values – fill round and triangle holes.

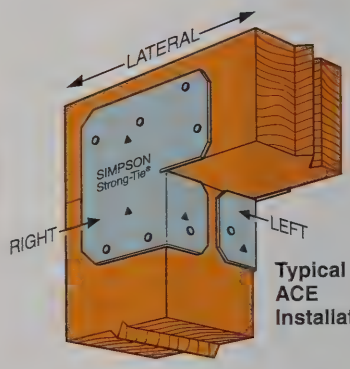

Typical LCE4 Installation



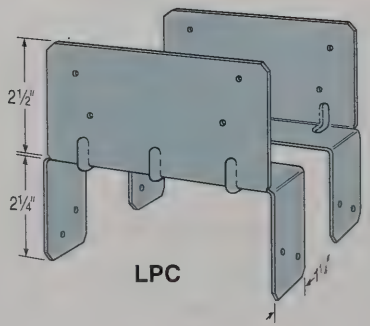
LCE4



AC



Typical ACE Installation



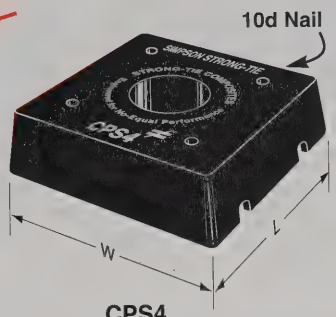
LPC

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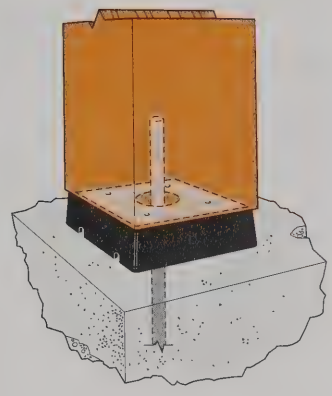
FEATURES:
- Designed for increased concrete surface area
- Higher load capacity
- Code-required 1" standoff
- Corrosion resistant
- Sized for 10d nails
- Can be used with rough lumber

MATERIAL: Engineered composite plastic.

INSTALLATION: • See General Notes.
- Attach to post before installation using four nail holes.
- Embed rod into concrete and extend into wood member.
- For nominal or rough sawn lumber.



CPS4 (other sizes similar)



Typical CPS4 Installation

Model No.	W	L	Maximum Downloads
CPS4	3¼	3¼	5195
CPS46	3⁵⁄₁₆	5⁵⁄₁₆	5865
CPS5	4⅛	4⅛	5865
CPS6	5⁵⁄₁₆	5⁵⁄₁₆	7745
CPS7	7¼	7¼	8315

1. Loads may not be increased for short-term loading.
2. The download is calculated based on the CPS bearing area and concrete strength of 2500 psi.

BC POST CAPS

The BCS allows for the connection of 2-2x's to a 4x post or 3-2x's to a 6x post. Double shear nailing between beam and post gives added strength!

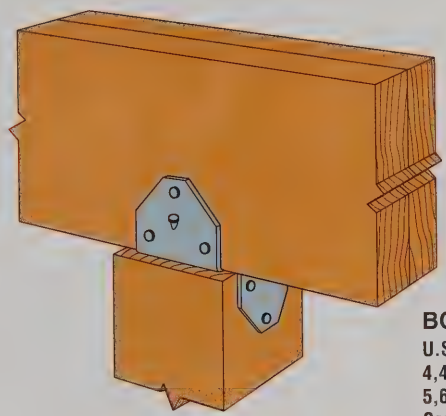
The BC series offers dual purpose post cap/base for light cap or base connections.

MATERIAL: 18 gauge

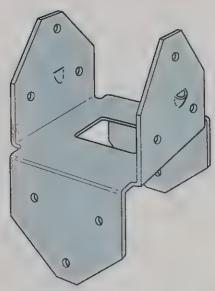
FINISH: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.
- BCS: install dome nails on beam; drive nails at an angle through the beam into the post below to achieve the table loads
- BC: install with 16d commons or 16dx2½" joist hanger nails.
- Not recommended for non-top-supported installations such as fences when used as a base.

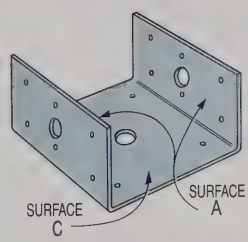
CODES: BOCA, ICBO, SBCCI NER-421; ICBO 5357; City of L.A. RR 25076 (except BCO); BOCA 97-9 (BC); Dade Co 99-0713.05.



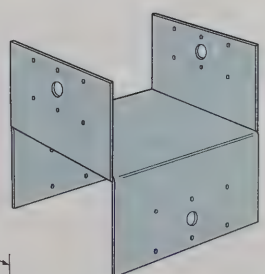
Typical BCS Installation



BCS2-2/4
U.S. Patent Nos. 4,480,941 and 5,603,580
Canada Patent 1,193,418



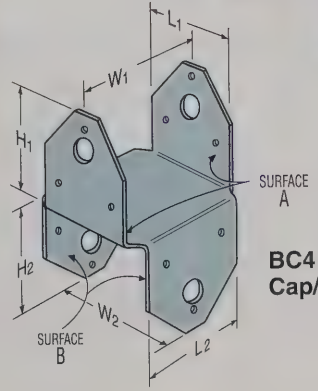
BC6O
Half Base
(other similar)



BC8
Cap/Base

Model No.	Dimensions						Fasteners (Each Side)			Uplift Avg Ult	Allowable Loads (133 & 160)[1]	
	W_1	W_2	L_1	L_2	H_1	H_2	Surface A	Surface B	Surface C		Uplift	Lateral
CAPS												
BC4	3⁹⁄₁₆	3⁹⁄₁₆	2⅞	2⅞	3	3	3-16d	3-16d	—	3100	980	1000
BC46	3⁹⁄₁₆	5½	4⅞	2⅞	3½	2½	6-16d	3-16d	—	3100	980	1000
BC4R	4	4	4	4	3	3	6-16d	6-16d	—	3100	980	1000
BC6	5½	5½	4⅜	4⅜	3⅜	3⅜	6-16d	6-16d	—	4700	1050	2000
BC6R	6	6	6	6	3	3	6-16d	6-16d	—	4700	1050	2000
BC8	7½	7½	7½	7½	4	4	6-16d	6-16d	—	5600	1800	2000
BCS2-2/4	3⅛	3⁹⁄₁₆	2⅞	2⅞	2¹⁵⁄₁₆	2¹⁵⁄₁₆	4-10d	3-10d	—	2697	780	1025
BCS2-3/6	4⅝	5⁹⁄₁₆	4⅜	2⅞	3⁵⁄₁₆	2¹⁵⁄₁₆	6-16d	3-16d	—	3000	800	1495
BASES												
BC4O	3⁹⁄₁₆	—	3¼	—	2¼	—	3-16d	—	4-16d	—	—	535
BC4OR	4	—	4	—	3	—	4-16d	—	4-16d	—	—	535
BC46O	5½	—	3⅜	—	3	—	4-16d	—	4-16d	—	—	535
BC6O	5½	—	5½	—	3	—	6-16d	—	4-16d	—	—	535
BC6OR	6	—	6	—	3	—	6-16d	—	4-16d	—	—	535

1. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load durations according to the code.



BC4
Cap/Base

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C POST CAPS

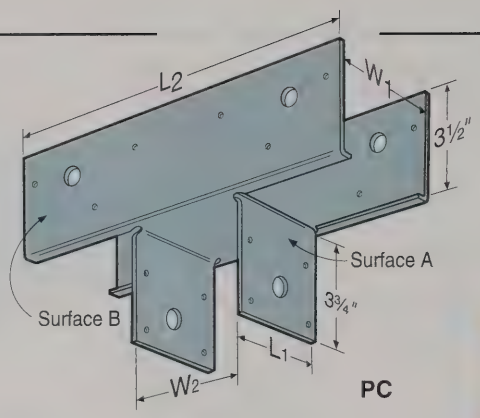
ection for post-beam combinations at medium

2 gauge; PC-16—16 gauge
d. Some products available in Z-MAX;
on-Resistance, page 5.

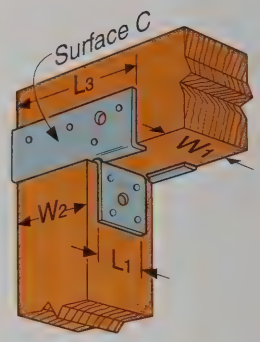
INSTALLATION: - Use all specified fasteners; see General Notes.
- 9/16" holes are provided for optional bolting. Loads do not apply to bolted connection.

OPTIONS: • For end conditions, specify EPC post caps, providing dimensions are in accordance with table; see illustration.
- Some PC and EPC models are available in rough sizes.
- For heavy duty applications, see also CC series.

CODES: BOCA, ICBO SBCCI NER-443; City of L.A. RR 25149.



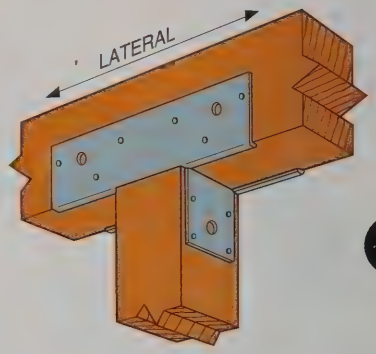
PC



Typical EPC End Post Cap Installation

Model No.	Post Size	DIMENSIONS					Fasteners each side			Uplift Avg Ult	Allowable Loads			
							Surfaces				Uplift PC/EPC		Lateral[2]	
		W_1	W_2	L_1	L_2	L_3	A	B	C		(133)	(160)	PC (133/160)	EPC (133/160)
PC44-16	4x4	3 3/16	3 3/16	2 5/8	11	7 5/16	4-16d	6-16d	4-16d	3433	1000	1000	925	1000
PC44	4x4	3 3/16	3 3/16	2 5/8	11	7 5/16	4-16d	6-16d	4-16d	4933	1470	1700	925	1070
PC46-16	4x6	3 3/16	5½	2 5/8	13	9¼	4-16d	6-16d	4-16d	3433	1000	1000	925	1000
PC46	4x6	3 3/16	5½	2 5/8	13	9¼	4-16d	6-16d	4-16d	4933	1470	1700	925	1070
PC48-16	4x8	3 3/16	7½	2 5/8	15	11¼	4-16d	8-16d	6-16d	3433	1000	1000	1475	1285
PC48	4x8	3 3/16	7½	2 5/8	15	11¼	4-16d	8-16d	6-16d	4933	1470	1700	2075	1610
PC64-16	4x6	5½	3 3/16	4 5/16	11	7⅜	4-16d	6-16d	4-16d	3433	1000	1000	925	1000
PC64	4x6	5½	3 3/16	4 5/16	11	7⅜	4-16d	6-16d	4-16d	4933	1470	1700	925	1070
PC66-16	6x6	5½	5½	4 5/16	13	9¼	4-16d	6-16d	6-16d	3433	1000	1000	925	1285
PC66	6x6	5½	5½	4 5/16	13	9¼	4-16d	6-16d	6-16d	4933	1470	1700	925	1610
PC68	6x8	5½	7½	4 5/16	15	11¼	4-16d	8-16d	6-16d	4933	1470	1700	2075	1610
PC84	4x8	7½	3 3/16	6 5/16	11	7⅜	4-16d	6-16d	6-16d	4933	1470	1700	925	1610
PC86	6x8	7½	5½	6 5/16	13	9¼	4-16d	6-16d	6-16d	4933	1470	1700	925	1610
PC88	8x8	7½	7½	6 5/16	15	11¼	4-16d	8-16d	6-16d	4933	1470	1700	2075	1610

1. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load durations according to the code.
2. Lateral loads are in the direction of the beam's axis, as shown.
3. Allowable loads are for nails only.
4. Uplift loads do not apply to splice conditions.
5. Spliced conditions must be detailed by the specifier to transfer tension loads between spliced members by means other than the column cap.



Typical PC Post Cap Installation

APS ALUMINUM POST STANDOFF

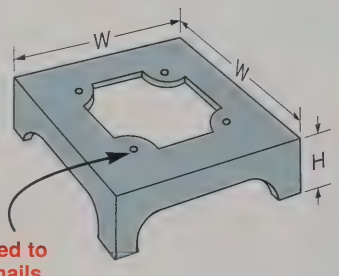
The APS standoff height above concrete or masonry floors or decks reduces decay at post and column ends.

MATERIAL: Cast aluminum

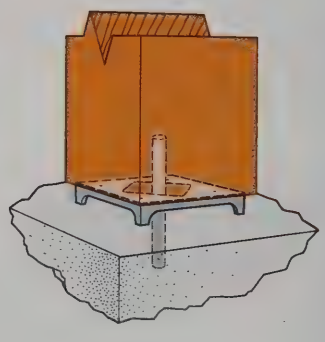
INSTALLATION: • See General Notes.
- Attach to post before installation using four nail holes.
- Embed rod into concrete and extend into wood member.
- For nominal or rough sawn lumber.

Model No.	Post Column Size	Dimensions		Allowable Down Load[2]
		W	H	
APS4	4x4	3¼	1	780
APS5	5x5	4⅜	1	1095
APS6	6x6	5⅜	1	1095
APS8	8x8	8	1¼	2655
APS10	10x10	9¾	1½	3595
APS12	12x12	11¾	1½	4530

1. Loads may not be increased for short-term loading.
2. The download is calculated based on the APS bearing area and concrete strength of 2500 psi.



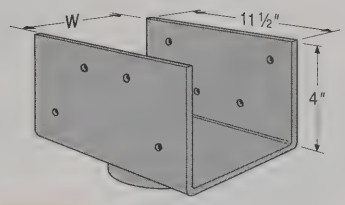
APS6 (others similar)


Typical APS5 Installation

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LCC LALLY COLUMN CAPS

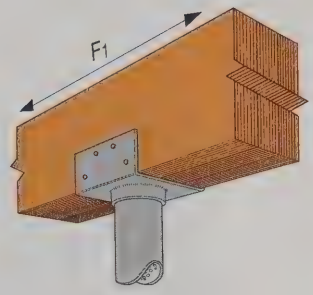
Lally column caps provide adequate bearing length for larger girder reactions.
MATERIAL: 12 gauge
FINISH: Simpson gray paint
INSTALLATION: • Use all specified fasteners. See General Notes.
• Fit the lally column cap over the lally column and attach to the girder.



LCC5.25-3.5

Model No.	W	Girder	Nails	Lally Column Outside Dia	Allowable Loads			
					Download		F_1	
					DF/SP/SPF	LVL/PSL	(133)	(160)
LCC4.5-3.5	4⅝	Triple 2x10/12	8-16d	3½	15820	—	1345	1615
LCC4.5-4	4⅝	Triple 2x10/12	8-16d	4	20670	—	1345	1615
LCC6-3.5	6⅛	Quad 2x10/12	8-16d	3½	15820	—	1345	1615
LCC6-4	6⅛	Quad 2x10/12	8-16d	4	20670	—	1345	1615
LCC3.5-3.5	3⅝	3.5 LVL/PSL	8-16d	3½	—	15820	1345	1615
LCC3.5-4	3⅝	3.5 LVL/PSL	8-16d	4	—	20670	1345	1615
LCC5.25-3.5	5⅜	5.25 LVL/PSL	8-16d	3½	—	15820	1345	1615
LCC5.25-4	5⅜	5.25 LVL/PSL	8-16d	4	—	20670	1345	1615
LCC7-3.5	7⅛	7 LVL/PSL	8-16d	3½	—	15820	1345	1615
LCC7-4	7⅛	7 LVL/PSL	8-16d	4	—	20670	1345	1615

1. Loads may not be increased for short-term loading.
2. Allowable loads are determined using the lowest of the bearing loads using Fc equal to 425 psi for SPF, 625 psi for DF and 700 for LVL/PSL, or the 8' lally column capacity.
3. Loads are for a continuous beam.
4. **Spliced conditions must be detailed by the specifier to transfer tension loads between spliced members by means other than the lally column. The splice condition load is 6750 lbs per beam side and the lally cap must be evenly loaded.**
5. To achieve lateral loads, LCC pipe must be welded to the column with an ⅛" fillet weld around the entire pipe.

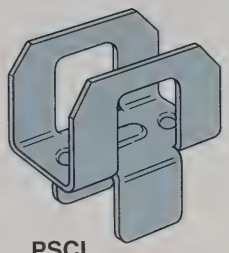


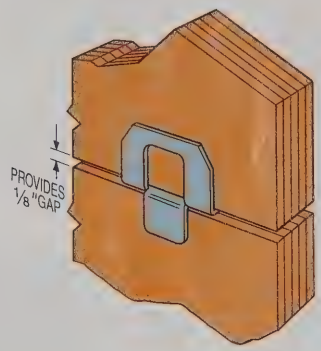
Typical LCC5.25-3.5 Installation connecting a 3 ply LVL and a 3½" diameter steel column

PSCL PANEL SHEATHING CLIPS

Steel panel sheathing clips include model sizes PSCL⅜, PSCL$^{7}/_{16}$, PSCL$^{15}/_{32}$, PSCL½, PSCL⅝; PSCL$^{19}/_{32}$, PSCL¾
MATERIAL: 20 gauge. **FINISH**: Galvanized.
INSTALLATION: Use the same size sheathing clip as the panel thickness.
• Spans may be reduced for low slopes (per the APA Residential Design/Construction Guide).

Span Rating	Panel Thickness	Maximum Roof Span		PSCLs Per Span
		With PSCL	Without PSCL	
24/0	⅜	24	20	1
24/16	$^{7}/_{16}$	24	24	1
32/16	$^{15}/_{32}$, ½	32	28	1
40/20	⅝, $^{19}/_{32}$	40	32	1
48/24	¾	48	36	2

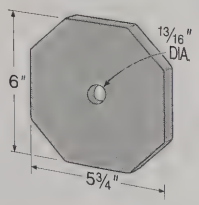

PSCL



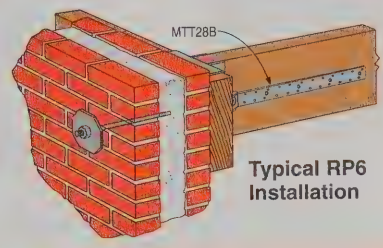
Typical PSCL Installation

RP6 RETRO PLATE

The RP6 heavy steel plate fits on the outside of masonry buildings, helps tie the walls to the roof or floor structure with a ¾" diameter bolt.
FINISH: Simpson gray paint. Optional hot-dip galvanized finish; see Corrosion-Resistance, page 5, and specify HDG.
MATERIAL: ⅜" steel
INSTALLATION: Use a ¾" diameter rod.



RP6



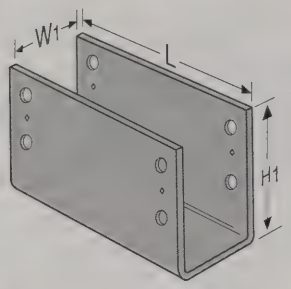
Typical RP6 Installation

IS INSULATION SUPPORTS

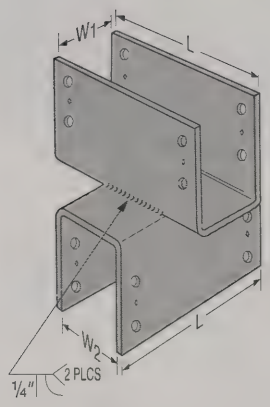
Mitered edges ensure a tight fit when installed between joists.
INSTALLATION: • Install between joists. IS16 (15½" long) for 16" o.c. spacing; IS24 (23½" long) for 24" o.c. spacing. Follow insulation manufacturer's installation instructions.
• Wear safety glasses, gloves and other appropriate safety equipment.


Typical IS Installation

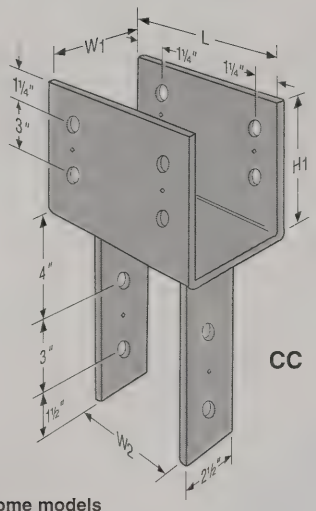
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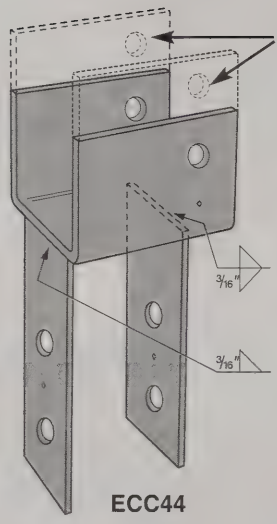
CCO



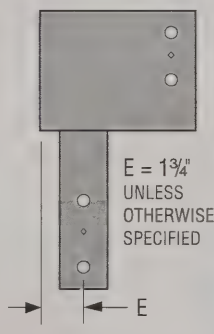
CCOB



CC



ECC44



Optional ECC with straps rotated 90

The industry standard column cap. Precision factory gang-punched holes speed installation on this product line.

MATERIAL: CC3¼, CC44, CC46, CC64, CC66, CC68, CC6-7—7 gauge; all others—3 gauge

FINISH: Simpson gray paint; may be ordered HDG; CCO—no finish.

INSTALLATION: • Use all specified fasteners. See General Notes.

- Bolt holes shall be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter (per 1997 NDS, section 8.1.2.1.).

OPTIONS: • Straps may be rotated 90° where $W_1 \geq W_2$ (see illustration).

- For special, custom, or rough cut lumber sizes, provide dimensions. An optional W_2 dimension may be specified with any column size given (note that the W_2 dimension on straps rotated 90° is limited by the W_1 dimension).
- Column caps with W_1, L, H_1, and hole schedules different from the table may be special ordered. Provide a drawing to ensure accuracy.

CCO/ECCO—Column cap only may be ordered for field-welding to pipe or other columns. No loads apply. **CCO and ECCO dimensions are the same as CC/ECC.**

CCOB—Any two CCOs may be specified for back-to-back welding to create a cross beam connector. Use the table loads; the load is no greater than the lesser element employed.

ECCU—For uplift at end conditions, see Technical Bulletin ECCUP.

ECC—For end conditions, specify ECC. Uplift loads do not apply to the ECC. ECC9 and ECC10 use four beam bolts.

CCC/CCT/ECCL—Cross Column Cap/T Column Cap/L Column Cap. 7 gauge stirrups may be welded to column cap sides. Uplift loads do not apply to side stirrups. **ECCL has no uplift loads.** To order, add the appropriate letters and dimensions to the model number in the table; see examples.

The following criteria apply:

1. The side stirrup maximum allowable download cannot exceed 40% of the download in the table for the unmodified product, and cannot exceed 10,665 lbs. The sum of the loads cannot exceed the table load. The column width in the direction of the beam width must be the same as the beam width: W1.
2. Specify the stirrup height from the top of the cap. The minimum H_2/H_3 for the stirrup is 6½" (3½" for 44s).
3. The L dimension may vary depending on W3 or W4.

Ordering examples: A CCC66 with W_3 = 5½", H_2 and H_3 = 6½" is a CC66 column cap with 5½" beams on each side with all beam seats flush. An ECCLR66 with W_3 = 3⁹⁄₁₆", H_2 = 7½" is an ECC66 end column cap with a 4x beam on the right side (specify L instead of R for left side stirrup) and stirrup seat 1" below the cap seat.

CODES: ICBO 1211; City of L.A. RR 22086.

Model No.	Dimensions					Fasteners				Allowable Loads			
			L			Beam		Post		Uplift		Down	
	W_1	W_2	CC	ECC	H_1	Qty	Dia	Qty	Dia	CC (133)	CC (160)	CC (100)	ECC (100)
CC3¼-4	3¼	3⅝	11	7½	6½	4	⅝	2	⅝	3035	3170	19250	6125
CC3¼-6	3¼	5½	11	7½	6½	4	⅝	2	⅝	3035	3170	19250	9625
CC44	3⅝	3⅝	7	5½	4	2	⅝	2	⅝	1220	1465	15310	7655
CC46	3⅝	5½	11	8½	6½	4	⅝	2	⅝	2330	2800	24060	12030
CC48	3⅝	7½	11	8½	6½	4	⅝	2	⅝	2330	2800	24060	16405
CC5¼-4	5¼	3⅝	13	9½	8	4	¾	2	¾	6305	6690	37310	10045
CC5¼-6	5¼	5½	13	9½	8	4	¾	2	¾	6275	6690	37310	15785
CC5¼-8	5¼	7½	13	9½	8	4	¾	2	¾	6275	6690	37310	21525
CC64	5½	3⅝	11	7½	6½	4	⅝	2	⅝	3365	3660	37810	12030
CC66	5½	5½	11	7½	6½	4	⅝	2	⅝	3365	3660	37810	18905
CC68	5½	7½	11	9½	6½	4	⅝	2	⅝	3365	3660	37810	25780
CC6-7⅛	5½	7⅛	11	9½	6½	4	⅝	2	⅝	3365	3660	37810	24060
CC7⅛-4	7⅛	3⅝	13	10½	8	4	¾	2	¾	6260	7510	68250	18375
CC7⅛-6	7⅛	5½	13	10½	8	4	¾	2	¾	6320	7585	68250	28875
CC7⅛-7⅛	7⅛	7⅛	13	10½	8	4	¾	2	¾	6320	7585	68250	36750
CC74	6⅞	3⅝	13	10½	8	4	¾	2	¾	6270	7525	49140	13230
CC76	6⅞	5½	13	10½	8	4	¾	2	¾	6270	7525	49140	20790
CC77	6⅞	6⅞	13	10½	8	4	¾	2	¾	6270	7525	49140	25515
CC78	6⅞	7½	13	10½	8	4	¾	2	¾	6270	7525	49140	28350
CC86	7½	5½	13	10½	8	4	¾	2	¾	6200	7440	54600	23100
CC88	7½	7½	13	10½	8	4	¾	2	¾	6200	7440	54600	31500
CC96	8⅞	5½	13	10½	8	4	¾	2	¾	6260	7515	63700	26950
CC98	8⅞	7½	13	10½	8	4	¾	2	¾	6260	7515	63700	36750
CC106	9½	5½	13	10½	8	4	¾	2	¾	6260	7515	69160	29260

1. Post sides are assumed to lie in the same vertical plane as the beam sides.
2. Loads may not be increased for short-term loading.
3. Downloads are determined using $F_{c\perp}$ equal to: 560 psi for glulam sizes and CC86, CC88 and CC106; 750 psi for 7⅛" size; 625 psi for all others; reduce where end bearing value of post, L/R of post, or other criteria are limiting.
4. Uplift loads have been increased 33% and 60% for earthquake or wind loading; reduce for other loading conditions in accordance with the code. **Uplift loads are limited by the beam shear capacity except CC76, CC78, and CC96 through CC106.**
5. ECC downloads assume a post of W_1 x W_2.
6. **Spliced conditions must be detailed by the specifier to transfer tension loads between spliced members by means other than the column cap.**
7. **Uplift loads do not apply to splice conditions.**

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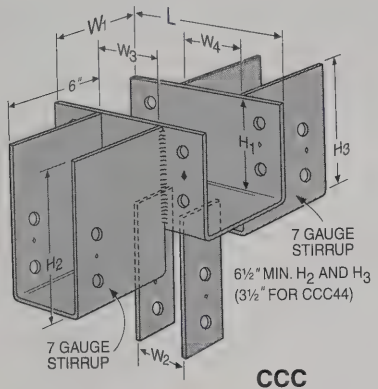
CCC/CCT/ECCL ALTERNATE OPTIONS

There are cost-effective alternatives for replacing column caps by using a combination of connectors. Here are some examples. Designer must specify the options required.

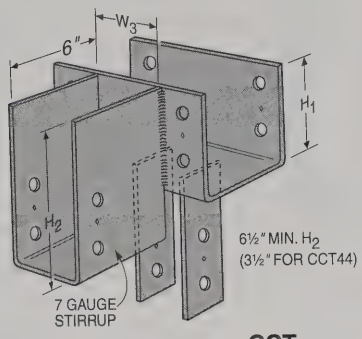
For more information, request Form T-CC and the Product Worksheet.
NOTE: The side cap will be welded flush with the top of the main cap.

Order each connector separately.

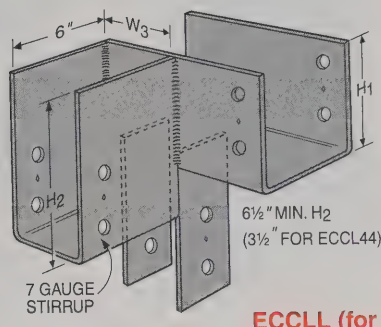
Instead of the column caps, use these connector combinations.



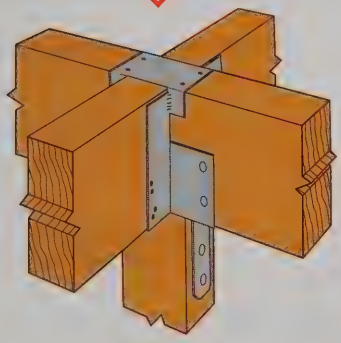
CCC



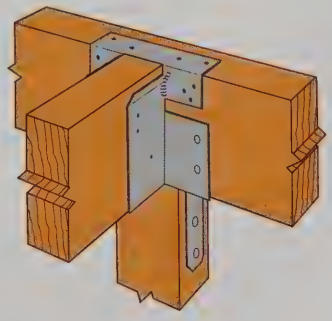
CCT



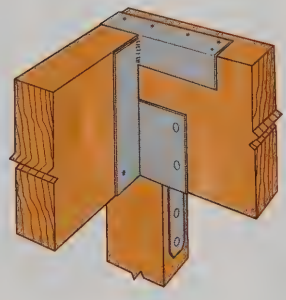
ECCLL (for left), shown above. Order ECCLR for right condition.



CC and WD



CC and GLT



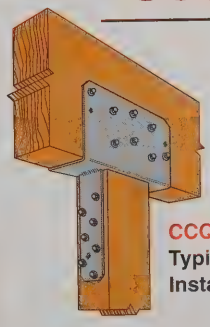
ECC and HW

CCQ/ECCQ COLUMN CAPS

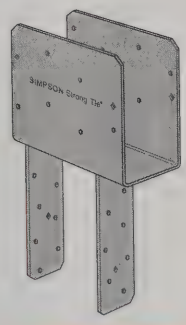
This design uses SDS screws to provide faster installation and maintain the wood cross section. The SDS screws provide for a lower profile compared to standard through bolts.
MATERIAL: CCQ5¼ and ECCQ5¼—3 gauge; all others—7 gauge.
FINISH: Simpson gray paint.
INSTALLATION: Fasteners provided. See General Notes.
OPTIONS: Straps may be rotated.
CODE: Submitted to ICBO 10/99.

Model No.	Dimensions					No. of Simpson SDS ¼" x 2" Wood Screws		Allowable Loads			
	W_1	W_2	L		H			Uplift CCQ/ECCQ		Down	Down
			CCQ	ECCQ		Beam	Post	(133)	(160)	CCQ (100)	ECCQ (100)
CCQ3¼-4-SDS2	3¼	3⅝	11	7½	6½	16	14	5955	7145	19250	6125
CCQ3¼-6-SDS2	3¼	5½	11	7½	6½	16	14	5955	7145	19250	9625
CCQ44-SDS2	3⅝	3⅝	7	5½	4	14	14	5955	7145	15310	7655
CCQ46-SDS2	3⅝	5½	11	8½	6½	16	14	5955	7145	24060	12030
CCQ5¼-4-SDS2	5¼	3⅝	13	9½	8	16	14	5955	7145	37310	10045
CCQ5¼-6-SDS2	5¼	5½	13	9½	8	16	14	5955	7145	37310	15785
CCQ5¼-8-SDS2	5¼	7½	13	9½	8	16	14	5955	7145	37310	21525
CCQ66-SDS2	5½	5½	11	7½	6½	16	14	5955	7145	37810	18905

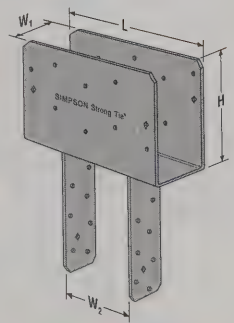
1. ECCQ44 has only 12-SDS ¼"x2 into the beam. The uplift load is 5105 at 133 and 6125 at 160.
2. Downloads are determined using Fc⊥ equal to: 560 psi for glulam sizes and 625 psi for all others; reduce where end bearing value of post, L/R of post, or other criteria are limiting.
3. **Spliced conditions must be detailed by the specifier to transfer tension loads between spliced members by means other than the column cap.**
4. **Uplift loads do not apply to splice conditions.**



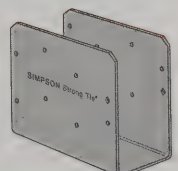
CCQ46-SDS2 Typical Installation



ECCQ46-SDS2

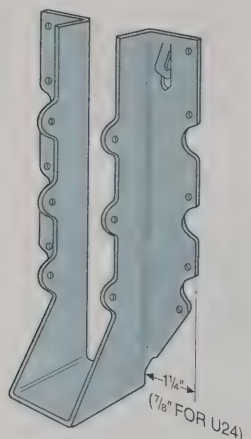


CCQ46-SDS2

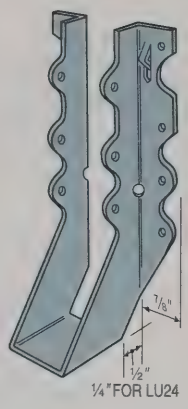


CCOQ46-SDS2

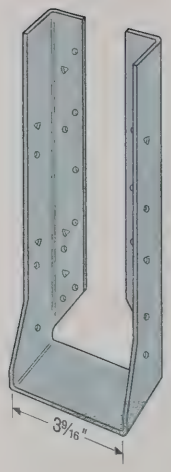
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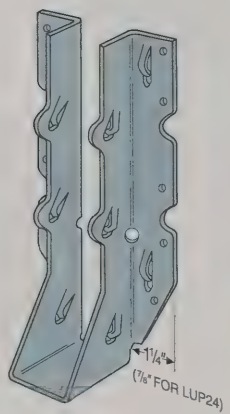
U210



LU28
(except LU Roughs)



HUC412
Concealed Flanges



LUP210

See Hanger tables on pages 46 to 52. See Hanger Options on pages 140 and 142 for hanger modifications, which may result in reduced loads.

LU—Value engineered for strength and economy. Precision-formed—engineered for installation ease and design value.

LUP—Precision-formed and engineered for fast installation. One hit positions the hanger for header nailing, eliminating joist nailing and the need for special short nails.

U—The standard U hanger provides flexibility of joist to header installation. Versatile fastener selection with tested allowable loads.

HU—Most models have triangle and round holes. To achieve maximum loads, fill both round and triangle holes with common nails. These heavy-duty connectors are designed for schools and other structures requiring additional strength, longevity and safety factors.

MATERIAL: See tables on pages 46 to 52.

FINISH: Galvanized

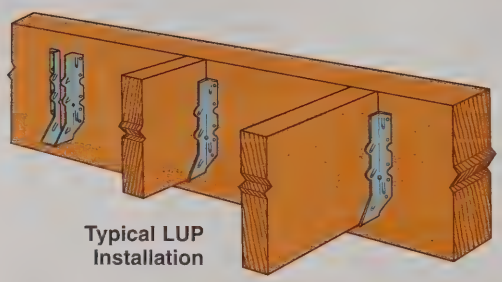
INSTALLATION: • Use all specified fasteners. See General Notes.

- LUP—Speed prongs provide instant location of the hanger onto the carrying beam and nailless securing of the joist onto the hanger. If a joist prong is deflected or bent on a knot, nail a 10dx1½" or equal through that slot. On cantilevered joists, use a 10dx1½" nail at each prong in addition to the prongs.
- HU—can be installed filling round holes only, or filling round and triangle holes for maximum values.

OPTIONS: • HU hangers available with the header flanges turned in for 2-2x (3⅛") and larger widths, with no load reduction–order HUC hanger.

- See Hanger Options on page 142, for sloped and/or skewed U/HU models, and HUC (concealed flange) models.
- HU only—rough beam sizes available by special order. See page 52 for tables.
- See also LUS and HUS series.
- LUP can not be modified.

CODES: BOCA, ICBO, SBCCI NER-393; ICBO 5117; City of L.A. RR 24947, RR 24818; Dade Co., 98-1021.01.

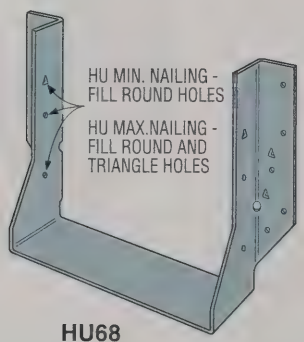


Typical LUP Installation

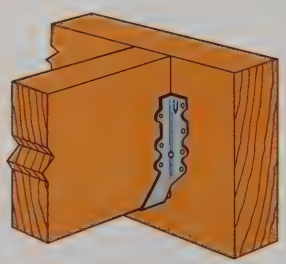
Model configurations may differ from those shown. Some HU models do not have triangle holes. Consult factory.



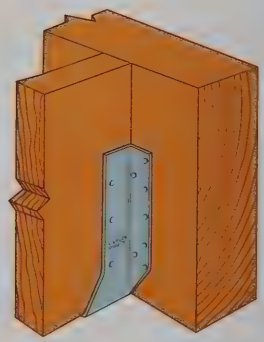
HU214
Projection seat on most models for maximum bearing and section economy.



HU68



Typical LU28 Installation



Typical HU Installation

JOIST SHEAR LOADS

The maximum capacity of a horizontal joist or rafter may be limited by the maximum horizontal shear capacity. This table gives the capacity for common sizes.

Joist or Rafter	Allowable Shear					
	100		115		125	
	DFL	SPF	DFL	SPF	DFL	SPF
2x4	332	245	382	282	415	306
2x6	522	385	600	443	653	481
2x8	688	508	792	584	860	635
2x10	878	648	1010	745	1098	810
2x12	1068	788	1229	905	1335	984

1. DFL = Doug Fir-Larch; SPF = Spruce-Pine-Fir.
2. FV = 95 psi for DFL, 70 psi for SPF.
3. The 115 and 125 loads are 115% and 125% of the 100% column, according to the code for short-term loading.

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FACE MOUNT HANGERS LUS/HUS DOUBLE SHEAR JOIST HANGERS

See Hanger tables on pages 46 to 52. See Hanger Options on page 140 for hanger modifications, which may result in reduced loads.

These hangers have the highest loads of any face mount hangers!

All hangers in this series have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation, and the use of common nails for all connections. (Do not bend or remove tabs)

MATERIAL: See tables, pages 46 to 52.

FINISH: Galvanized. Some products available in stainless steel or Z-MAX; see Corrosion-Resistance, page 5.

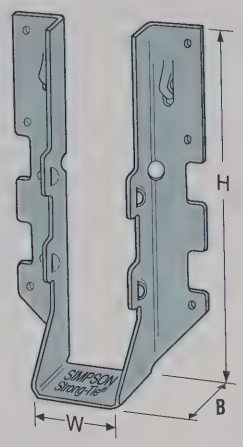
INSTALLATION • Use all specified fasteners. See General Notes.

- Nails must be driven at an angle through the joist or truss into the header to achieve the table loads.
- Not designed for welded or nailer applications.
- 16d sinkers (9 gauge x 3¼") may be used where 10d commons are specified with no reduction in load. Where 16d commons are specified, 10d commons or 16d sinkers (9 gauge x 3¼") may be used at 0.84 of the table load.
- With 3x carrying members, use 16d x 2½" nails into the header and 16d commons into the joist with no load reduction. With 2x carrying members, use 10d x 1½" nails into the header and 10d commons into the joist, and reduce the load to 0.64 of the table value.

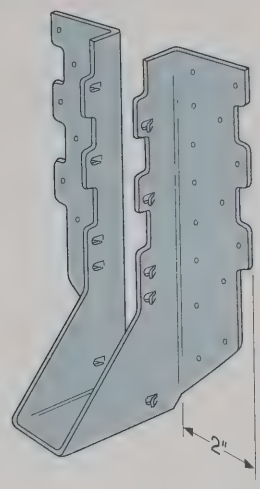
OPTIONS: • LUS hangers cannot be modified.

- HUS hangers available with the header flanges turned in for 2-2x (3⅛") and 4x only, with no load reduction. See the HUSC Concealed Flange illustration.
- See Hanger Options, page 140, for sloped and/or skewed HUS models.
- Other sizes available; consult your Simpson representative.

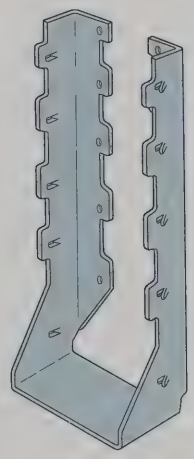
CODES: BOCA, ICBO, SBCCI Nos. NER-209, NER-421; City of L.A. RR 24949 and RR 25076; Dade County No. 98-0724.06.



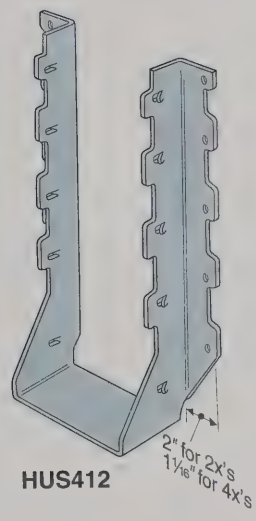
LUS28



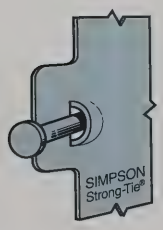
HUS210
(HUS26, HUS28, and HHUS similar)



HUSC
Concealed Flanges
(not available for HHUS, HGUS and HUS2x)

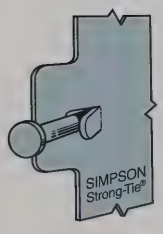


HUS412



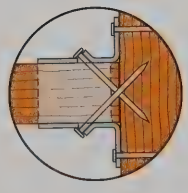
Dome Double Shear Nailing prevents tabs breaking off (available on some models)

U.S. Patent 5,603,580



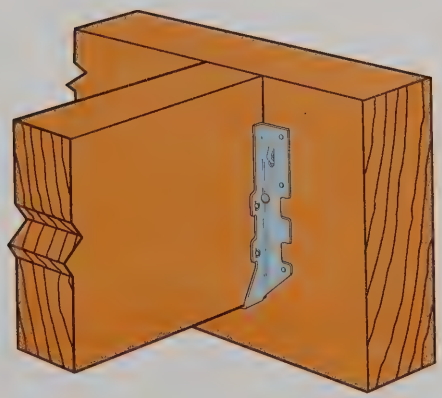
Double Shear Nailing Side View

U.S. Patent 4,291,996



Double Shear Nailing Top View

U.S. Patent 4,480,941
Canada Patent 1,193,418



Typical LUS28 Installation

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Face Mount Hangers - Solid Sawn Lumber (DF & SP)

SIMPSON Strong-Tie CONNECTORS

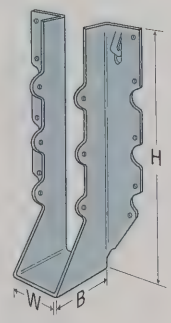
Joist Size	Model No.	Ga	Dimensions W	Dimensions H	Dimensions B	Fasteners Header 10d	Fasteners Header 16d	Fasteners Joist	Down Avg Ult	Doug Fir Larch/Southern Pine Allowable Loads Uplift (133)	Uplift (160)	Floor (100) 10d	Floor (100) 16d	Snow (115) 10d	Snow (115) 16d	Roof (125) 10d	Roof (125) 16d	Installed Cost Index (ICI)
SAWN LUMBER SIZES																		
2x4	LUP24	18	1⅜16	3⅛	1½	4-10d	4-16d	2 PRONG	2817	—	—	445	530	510	610	555	665	Lowest
	LU24	20	1⅜16	3⅛	1½	4-10d	4-16d	2-10dx1½	2333	245	265	445	530	510	610	555	665	+ 2 %
	LUS24	18	1⅜16	3⅛	1¾	4-10d	—	2-10d	3850	465	490	640	—	735	—	800	—	+ 3 %
	U24	16	1⅜16	3⅛	1½	4-10d	4-16d	2-10dx1½	4117	240	290	445	530	510	610	555	665	+ 67 %
	HU26	14	1⅜16	3⅛16	2¼	—	4-16d	2-10dx1½	5270	240	290	—	535	—	615	—	670	+ 295 %
DBL 2x4	LUS24-2	18	3⅛	3⅛	2	—	4-16d	2-16d	5303	530	530	—	765	—	880	—	960	Lowest
	U24-2	16	3⅛	3	2	4-10d	4-16d	2-10d	4117	295	355	445	530	510	610	555	665	+ 33 %
	HU24-2	14	3⅛	3⅛16	2½	—	4-16d	2-10d	5270	300	360	—	535	—	615	—	670	+ 240 %
2x6	LUS26	18	1⅜16	4¾	1¾	4-10d	—	4-10d	5167	930	1115	830	—	955	—	1040	—	Lowest
	LUP26	18	1⅜16	4¾	2	6-10d	6-16d	4 PRONG	3937	—	—	665	800	765	920	830	1000	+ 3 %
	LU26	20	1⅜16	4¾	1½	6-10d	6-16d	4-10dx1½	3217	490	565	665	800	765	920	830	1000	+ 6 %
	U26	16	1⅜16	4¾	2	6-10d	6-16d	4-10dx1½	4950	480	575	665	800	765	920	830	1000	+ 43 %
	HU26	14	1⅜16	3⅛16	2¼	—	4-16d	2-10dx1½	5270	240	290	—	535	—	615	—	670	+ 179 %
	HUS26	16	1⅝	5⅛	3	—	14-16d	6-16d	10000	1550	1550	—	2565	—	2950	—	3205	+ 276 %
DBL 2x6	LUS26-2	18	3⅛	4⅞	2	—	4-16d	4-16d	6076	1140	1165	—	1000	—	1150	—	1250	Lowest
	U26-2	16	3⅛	5	2	8-10d	8-16d	4-10d	7033	590	710	890	1065	1020	1225	1110	1330	+ 65 %
	HUS26-2	14	3⅛	5⅜16	2	—	4-16d	4-16d	8033	1080	1235	—	1005	—	1155	—	1255	+ 172 %
	HU26-2 Min	14	3⅛	5⅜	2½	—	8-16d	4-10d	9474	605	725	—	1070	—	1235	—	1340	+ 233 %
	HU26-2 Max	14	3⅛	5⅜	2½	—	12-16d	6-10d	11383	905	1085	—	1610	—	1850	—	2010	+ 254 %
TPL 2x6	LUS26-3	18	4⅝	4⅛	2	—	4-16d	4-16d	6433	1140	1165	—	1000	—	1150	—	1250	*
	U26-3	16	4⅝	4¼	2	8-10d	8-16d	2-10d	7033	295	355	890	1065	1020	1225	1110	1330	*
	HU26-3 Min	14	4⅛16	5½	2½	—	8-16d	4-10d	9474	605	725	—	1070	—	1235	—	1340	*
	HU26-3 Max	14	4⅛16	5½	2½	—	12-16d	6-10d	11383	905	1085	—	1610	—	1850	—	2010	*
2x8	LUS26	18	1⅜16	4¾	1¾	4-10d	—	4-10d	5167	930	1115	830	—	955	—	1040	—	Lowest
	LUP26	18	1⅜16	4¾	2	6-10d	6-16d	4 PRONG	3937	—	—	665	800	765	920	830	1000	+ 3 %
	LU26	20	1⅜16	4¾	1½	6-10d	6-16d	4-10dx1½	3217	490	565	665	800	765	920	830	1000	+ 6 %
	LUS28	18	1⅜16	6⅝	1¾	6-10d	—	4-10d	6067	930	1115	1055	—	1210	—	1320	—	+ 23 %
	LUP28	18	1⅜16	6⅝	2	8-10d	8-16d	6 PRONG	6167	—	—	890	1065	1020	1225	1110	1330	+ 29 %
	LU28	20	1⅜16	6⅜	1½	8-10d	8-16d	6-10dx1½	4017	735	850	890	1065	1020	1225	1110	1300	+ 39 %
	U26	16	1⅜16	4¾	2	6-10d	6-16d	4-10dx1½	4950	480	575	665	800	765	920	830	1000	+ 43 %
	HU28	14	1⅜16	5¼	2¼	—	6-16d	4-10dx1½	6683	480	575	—	805	—	925	—	1005	+ 251 %
	HUS26	16	1⅝	5⅛	3	—	14-16d	6-16d	10000	1550	1550	—	2565	—	2950	—	3205	+ 276 %
	HUS28	16	1⅝	7	3	—	22-16d	8-16d	13167	2000	2000	—	3585	—	3700	—	3775	+ 409 %
DBL 2x8	LUS26-2	18	3⅛	4⅞	2	—	4-16d	4-16d	6076	1140	1165	—	1000	—	1150	—	1250	Lowest
	LUS28-2	18	3⅛	7	2	—	6-16d	4-16d	7750	1140	1165	—	1265	—	1455	—	1585	+ 8 %
	U26-2	16	3⅛	5	2	8-10d	8-16d	4-10d	7033	590	710	890	1065	1020	1225	1110	1330	+ 65 %
	HUS28-2	14	3⅛	7⅜16	2	—	6-16d	6-16d	11190	1550	1550	—	1505	—	1730	—	1885	+ 188 %
	HU28-2 Min	14	3⅛	7	2½	—	10-16d	4-10d	11383	605	725	—	1340	—	1540	—	1675	+ 397 %
	HU28-2 Max	14	3⅛	7	2½	—	14-16d	6-10d	14566	905	1085	—	1875	—	2155	—	2345	+ 418 %
TPL 2x8	LUS28-3	18	4⅝	6¼	2	—	6-16d	4-16d	7500	1140	1165	—	1265	—	1455	—	1585	*
	U26-3	16	4⅝	4¼	2	8-10d	8-16d	2-10d	7033	295	355	890	1065	1020	1225	1110	1330	*
2x10	LUS28	18	1⅜16	6⅝	1¾	6-10d	—	4-10d	6067	930	1115	1055	—	1210	—	1320	—	Lowest
	LUP28	18	1⅜16	6⅝	2	8-10d	8-16d	6 PRONG	6167	—	—	890	1065	1020	1225	1110	1330	+ 5 %
	LU28	20	1⅜16	6⅜	1½	8-10d	8-16d	6-10dx1½	4017	735	850	890	1065	1020	1225	1110	1300	+ 13 %
	LUS210	18	1⅜16	7⅜16	1¾	8-10d	—	4-10d	7750	930	1115	1275	—	1470	—	1595	—	+ 15 %
	LUP210	18	1⅜16	7⅜16	2	10-10d	10-16d	6 PRONG	6533	—	—	1110	1330	1275	1530	1390	1660	+ 23 %
	LU210	20	1⅜16	7⅜16	1½	10-10d	10-16d	6-10dx1½	6250	735	850	1110	1330	1275	1530	1390	1660	+ 28 %
	U210	16	1⅜16	7⅜16	2	10-10d	10-16d	6-10dx1½	5583	720	865	1110	1330	1275	1530	1390	1660	+ 76 %
	HU210	14	1⅜16	7⅛	2¼	—	8-16d	4-10dx1½	9474	480	575	—	1070	—	1235	—	1340	+ 225 %
	HUS210	16	1⅝	9	3	—	30-16d	10-16d	18833	2845	3000	—	3775	—	3920	—	4020	+ 450 %
DBL 2x10	LUS28-2	18	3⅛	7	2	—	6-16d	4-16d	7750	1140	1165	—	1265	—	1455	—	1585	Lowest
	LUS210-2	18	3⅛	9	2	—	8-16d	6-16d	10906	1710	1745	—	1765	—	2030	—	2210	+ 34 %
	U210-2	16	3⅛	8½	2	14-10d	14-16d	6-10d	11000	890	1065	1555	1860	1785	2140	1940	2330	+ 88 %
	HUS210-2	14	3⅛	9⅜16	2	—	8-16d	8-16d	14550	2160	2590	—	2010	—	2310	—	2510	+ 217 %
	HU210-2 Min	14	3⅛	8⅛16	2½	—	14-16d	6-10d	14566	905	1085	—	1875	—	2155	—	2345	+ 441 %
	HU210-2 Max	14	3⅛	8⅛16	2½	—	18-16d	10-10d	15166	1505	1810	—	2410	—	2775	—	3015	+ 467 %
TPL 2x10	LUS28-3	18	4⅝	6¼	2	—	6-16d	4-16d	7500	1140	1165	—	1265	—	1455	—	1585	*
	LUS210-3	18	4⅝	8⅜16	2	—	8-16d	6-16d	7500	1710	1745	—	1765	—	2030	—	2210	*
	U210-3	16	4⅝	7¾	2	14-10d	14-16d	6-10d	11000	890	1065	1555	1860	1785	2140	1940	2330	*
	HU210-3 Min	14	4⅛16	8⅜16	2½	—	14-16d	6-10d	14566	905	1085	—	1875	—	2155	—	2345	*
	HU210-3 Max	14	4⅛16	8⅜16	2½	—	18-16d	10-10d	15166	1505	1810	—	2410	—	2775	—	3015	*
2x12	LUS210	18	1⅜16	7⅜16	1¾	8-10d	—	4-10d	7750	930	1115	1275	—	1470	—	1595	—	Lowest
	LUP210	18	1⅜16	7⅜16	2	10-10d	10-16d	6 PRONG	6533	—	—	1110	1330	1275	1530	1390	1660	+ 7 %

See footnotes on opposite page.

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Face Mount Hangers - Solid Sawn Lumber (DF & SP)

Joist Size	Model No.	Ga	Dimensions W	H	B	Fasteners Header 10d	Header 16d	Joist	Down Avg Ult	Allowable Loads Uplift (133)	Uplift (160)	Floor (100) 10d	Floor (100) 16d	Snow (115) 10d	Snow (115) 16d	Roof (125) 10d	Roof (125) 16d	Installed Cost Index (ICI)
SAWN LUMBER SIZES																		
2x12	LU210	20	1 9/16	7 13/16	1 1/2	10-10d	10-16d	6-10d×1 1/2	6233	735	850	1110	1330	1275	1530	1390	1660	+ 11 %
	U210	16	1 9/16	7 13/16	2	10-10d	10-16d	6-10d×1 1/2	5583	720	865	1110	1330	1275	1530	1390	1660	+ 53 %
	HU212	14	1 9/16	9	2 1/4	—	10-16d	6-10d×1 1/2	11383	720	865	—	1340	—	1540	—	1675	+ 347 %
	HUS210	16	1 5/8	9	3	—	30-16d	10-16d	18833	2845	3000	—	3775	—	3920	—	4020	+ 378 %
DBL 2x12	LUS210-2	18	3 1/8	9	2	—	8-16d	6-16d	10906	1550	1550	—	1765	—	2030	—	2210	Lowest
	U210-2	16	3 1/8	8 1/2	2	14-10d	14-16d	6-10d	11000	890	1065	1555	1860	1785	2140	1940	2330	+ 40 %
	LUS214-2	18	3 1/8	10 15/16	2	—	10-16d	6-16d	12750	1550	1550	—	2030	—	2335	—	2540	+ 56 %
	HUS210-2	14	3 1/8	9 3/16	2	—	8-16d	8-16d	14550	2050	2590	—	2010	—	2310	—	2510	+ 136 %
	HUS212-2	14	3 1/8	10 3/4	2	—	10-16d	10-16d	18033	2560	3240	—	2510	—	2885	—	3140	+ 156 %
	HU212-2 Min	14	3 1/8	10 9/16	2 1/2	—	16-16d	6-10d	14316	905	1085	—	2145	—	2465	—	2680	+ 387 %
	HU212-2 Max	14	3 1/8	10 9/16	2 1/2	—	22-16d	10-10d	15933	1505	1810	—	2950	—	3390	—	3685	+ 411 %
TPL 2x12	LUS28-3	18	4 5/8	6 1/4	2	—	6-16d	4-16d	7500	1140	1165	—	1265	—	1455	—	1585	*
	LUS210-3	18	4 5/8	8 3/16	2	—	8-16d	6-16d	7500	1550	1550	—	1765	—	2030	—	2210	*
	HU212-3 Min	14	4 1/16	10 5/16	2 1/2	—	16-16d	6-10d	14316	905	1085	—	2145	—	2465	—	2680	*
	HU212-3 Max	14	4 1/16	10 5/16	2 1/2	—	22-16d	10-10d	15933	1505	1810	—	2950	—	3390	—	3685	*
	U210-3	16	4 5/8	7 3/4	2	14-10d	14-16d	6-10d	11000	890	1065	1555	1860	1785	2140	1940	2330	*
2x14	LUS210	18	1 9/16	7 13/16	1 3/4	8-10d	—	4-10d	7750	930	1115	1275	—	1470	—	1595	—	Lowest
	LUP210	18	1 9/16	7 13/16	2	10-10d	10-16d	6 PRONG	6533	—	—	1110	1330	1275	1530	1390	1660	+ 7 %
	LU210	20	1 9/16	7 13/16	1 3/4	10-10d	10-16d	6-10d×1 1/2	6233	735	850	1110	1330	1275	1530	1390	1660	+ 11 %
	U210	16	1 9/16	7 13/16	2	10-10d	10-16d	6-10d×1 1/2	5583	720	865	1110	1330	1275	1530	1390	1660	+ 53 %
	HU214	14	1 9/16	10 1/8	2 1/4	—	12-16d	6-10d×1 1/2	11383	720	865	—	1610	—	1850	—	2010	+ 88 %
	U214	16	1 9/16	10	2	12-10d	12-16d	8-10d×1 1/2	5583	960	1150	1330	1595	1530	1835	1665	1995	+ 147 %
DBL 2x14	U210-2	16	3 1/8	8 1/2	2	14-10d	14-16d	6-10d	11000	890	1065	1555	1860	1785	2140	1940	2330	Lowest
	LUS214-2	18	3 1/8	10 15/16	2	—	10-16d	6-16d	12750	1710	1745	—	2030	—	2335	—	2540	+ 12 %
	HUS212-2	14	3 1/8	10 3/4	2	—	10-16d	10-16d	18033	2700	3240	—	2510	—	2885	—	3140	+ 83 %
	HU212-2 Min	14	3 1/8	10 9/16	2 1/2	—	16-16d	6-10d	14316	905	1085	—	2145	—	2465	—	2680	+ 248 %
	HU212-2 Max	14	3 1/8	10 9/16	2 1/2	—	22-16d	10-10d	15933	1505	1810	—	2950	—	3390	—	3685	+ 265 %
	HU214-2 Min	14	3 1/8	12 13/16	2 1/2	—	18-16d	8-10d	15166	1205	1505	—	2410	—	2775	—	3015	+ 259 %
	HU214-2 Max	14	3 1/8	12 13/16	2 1/2	—	24-16d	12-10d	18196	1810	2170	—	3215	—	3700	—	4020	+ 276 %
TPL 2x14	U210-3	16	4 5/8	7 3/4	2	14-10d	14-16d	6-10d	11000	890	1065	1555	1860	1785	2140	1940	2330	*
	HU214-3 Min	14	4 1/16	12 1/16	2 1/2	—	18-16d	8-10d	15166	1205	1445	—	2410	—	2775	—	3015	*
	HU214-3 Max	14	4 1/16	12 1/16	2 1/2	—	24-16d	12-10d	18196	1810	2170	—	3215	—	3700	—	4020	*
2x16	U214	16	1 9/16	10	2	12-10d	12-16d	8-10d×1 1/2	5583	960	1150	1330	1595	1530	1835	1665	1995	Lowest
	HU214	14	1 9/16	10 1/8	2 1/4	—	12-16d	6-10d×1 1/2	11383	720	865	—	1610	—	1850	—	2010	+ 130 %
	HU216	14	1 9/16	12 5/16	2 1/4	—	18-16d	8-10d×1 1/2	11383	960	1155	—	2410	—	2775	—	3015	+ 130 %
DBL 2x16	HUS212-2	14	3 1/8	10 3/4	2	—	10-16d	10-16d	18033	2700	3240	—	2510	—	2885	—	3140	Lowest
	HU216-2 Min	14	3 1/8	13 7/8	2 1/2	—	20-16d	8-10d	15933	1205	1445	—	2680	—	3080	—	3350	+ 111 %
	HU216-2 Max	14	3 1/8	13 7/8	2 1/2	—	26-16d	12-10d	18196	1810	2015	—	3485	—	4005	—	4355	+ 120 %
TPL 2x16	HU216-3 Min	14	4 1/16	13 7/8	2 1/2	—	20-16d	8-10d	15933	1205	1445	—	2680	—	3080	—	3350	*
	HU216-3 Max	14	4 1/16	13 7/8	2 1/2	—	26-16d	12-10d	18196	1810	2015	—	3485	—	4005	—	4355	*
3x4	U34	16	2 9/16	3 3/8	2	4-10d	4-16d	2-10d×1 1/2	4117	240	265	445	530	510	610	555	665	*
	HU34	14	2 9/16	3 3/8	2 1/2	—	4-16d	2-10d×1 1/2	5270	240	290	—	535	—	615	—	670	*
3x6	U36	16	2 9/16	5 3/8	2	8-10d	8-16d	4-10d×1 1/2	7033	480	575	890	1065	1020	1225	1110	1330	*
	LUS36	18	2 9/16	5 1/4	2	—	4-16d	4-16d	5167	1140	1160	—	1000	—	1150	—	1250	*
	HU36	14	2 9/16	5 3/8	2 1/2	—	8-16d	4-10d×1 1/2	9474	480	575	—	1070	—	1235	—	1340	*
3x8	U36	16	2 9/16	5 3/8	2	8-10d	8-16d	4-10d×1 1/2	7033	480	575	890	1065	1020	1225	1110	1330	*
	HU38	14	2 9/16	7 1/8	2 1/2	—	10-16d	4-10d×1 1/2	11383	480	575	—	1340	—	1540	—	1675	*
3x10	U310	16	2 9/16	8 7/8	2	14-10d	14-16d	6-10d×1 1/2	11000	720	865	1555	1860	1785	2140	1940	2330	*
	LUS310	18	2 9/16	7 1/4	2	—	6-16d	4-16d	7750	1140	1160	—	1265	—	1455	—	1585	*
	HU310	14	2 9/16	8 7/8	2 1/2	—	14-16d	6-10d×1 1/2	14566	720	865	—	1875	—	2155	—	2345	*
3x12	U310	16	2 9/16	8 7/8	2	14-10d	14-16d	6-10d×1 1/2	11000	720	865	1555	1860	1785	2140	1940	2330	*
	HU312	14	2 9/16	10 5/8	2 1/2	—	16-16d	6-10d×1 1/2	14316	720	865	—	2145	—	2465	—	2680	*
3x14	U314	16	2 9/16	10 1/2	2	16-10d	16-16d	6-10d×1 1/2	11000	720	865	1775	2130	2040	2445	2220	2660	*
	HU314	14	2 9/16	12 3/8	2 1/2	—	18-16d	8-10d×1 1/2	15166	960	1150	—	2410	—	2775	—	3015	*
3x16	U314	16	2 9/16	10 1/2	2	16-10d	16-16d	6-10d×1 1/2	11000	720	865	1775	2130	2040	2445	2220	2660	*
	HU316	14	2 9/16	14 1/8	2 1/2	—	20-16d	8-10d×1 1/2	15933	960	1150	—	2680	—	3080	—	3350	*
4x4	LUS44	18	3 9/16	3	2	—	4-16d	2-16d	5303	275	275	—	765	—	880	—	960	Lowest
	U44	16	3 9/16	2 7/8	2	4-10d	4-16d	2-10d	4117	295	355	445	530	510	610	555	665	+ 20 %
	HU44	14	3 9/16	2 7/8	2 1/2	—	4-16d	2-10d	5270	300	360	—	535	—	615	—	670	+ 161 %
4x6	LUS46	18	3 9/16	4 3/4	2	—	4-16d	4-16d	6076	1140	1160	—	1000	—	1150	—	1250	Lowest
	U46	16	3 9/16	4 7/8	2	8-10d	8-16d	4-10d	7033	590	710	890	1065	1020	1225	1110	1330	+ 37 %
	HUS46	14	3 9/16	5	2	—	4-16d	4-16d	8033	1080	1235	—	1005	—	1155	—	1255	+ 152 %
	HU46 Min	14	3 9/16	5 5/16	2 1/2	—	8-16d	4-10d	9474	605	725	—	1070	—	1235	—	1340	+ 163 %
	HU46 Max	14	3 9/16	5 5/16	2 1/2	—	12-16d	6-10d	11383	905	1085	—	1610	—	1850	—	2010	+ 185 %



1. 10d common nails or 16d sinkers (9 gauge x 3¼") may be used instead of the specified 16d nails at 0.84 of the table load value.
2. 16d sinkers (9 gauge x 3¼") may be used instead of the specified 10d commons with no load reduction.
3. Roof loads are 125% of floor loads unless limited by other criteria.
4. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
5. MIN nailing quantity and load values—fill all round holes; MAX nailing quantity and load values—fill all round and triangle holes.
6. **DF/SP loads can be used for LVL. See page 5 for headers with reduced capacity due to installation with different nails.**

* Hangers do not have an Installed Cost Index as they are used for specialty applications.

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Face Mount Hangers - Solid Sawn Lumber (DF & SP)

SIMPSON Strong-Tie CONNECTORS

Joist Size	Model No.	Ga	Dimensions W	Dimensions H	Dimensions B	Fasteners Header 10d	Fasteners Header 16d	Fasteners Joist	Down Avg Ult	Allowable Loads Uplift (133)	Uplift (160)	Floor (100) 10d	Floor (100) 16d	Snow (115) 10d	Snow (115) 16d	Roof (125) 10d	Roof (125) 16d	Installed Cost Index (ICI)
SAWN LUMBER SIZES																		
4x8	LUS46	18	3 9/16	4 3/4	2	—	4-16d	4-16d	6076	1140	1165	—	1000	—	1150	—	1250	Lowest
	U46	16	3 9/16	4 7/8	2	8-10d	8-16d	4-10d	7033	590	710	890	1065	1020	1225	1110	1330	+ 37 %
	LUS48	18	3 9/16	6 3/4	2	—	6-16d	4-16d	7750	1140	1165	—	1265	—	1455	—	1585	+ 40 %
	HUS48	14	3 9/16	6 15/16	2	—	6-16d	6-16d	11190	1550	1550	—	1505	—	1730	—	1885	+ 203 %
	HU48 Min	14	3 9/16	6 13/16	2 1/2	—	10-16d	4-10d	11383	605	725	—	1340	—	1540	—	1675	+ 213 %
	HU48 Max	14	3 9/16	6 13/16	2 1/2	—	14-16d	6-10d	14566	905	1085	—	1875	—	2155	—	2345	+ 235 %
4x10	LUS48	18	3 9/16	6 3/4	2	—	6-16d	4-16d	7750	1140	1165	—	1265	—	1455	—	1585	Lowest
	LUS410	18	3 9/16	8 3/4	2	—	8-16d	6-16d	10906	1710	1745	—	1765	—	2030	—	2210	+ 19 %
	U410	16	3 9/16	8 3/8	2	14-10d	14-16d	6-10d	11000	890	1065	1555	1860	1785	2140	1940	2330	+ 74 %
	HUS410	14	3 9/16	8 15/16	2	—	8-16d	8-16d	14550	2160	2590	—	2010	—	2310	—	2510	+ 154 %
	HU410 Min	14	3 9/16	8 5/8	2 1/2	—	14-16d	6-10d	14566	905	1085	—	1875	—	2155	—	2345	+ 232 %
	HU410 Max	14	3 9/16	8 5/8	2 1/2	—	18-16d	10-10d	15166	1505	1810	—	2410	—	2775	—	3015	+ 253 %
4x12	LUS410	18	3 9/16	8 3/4	2	—	8-16d	6-16d	10906	1710	1745	—	1765	—	2030	—	2210	Lowest
	LUS414	18	3 9/16	10 3/4	2	—	10-16d	6-16d	12750	1710	1745	—	2030	—	2335	—	2540	+ 33 %
	U410	16	3 9/16	8 3/8	2	14-10d	14-16d	6-10d	11000	890	1065	1555	1860	1785	2140	1940	2330	+ 46 %
	HUS410	14	3 9/16	8 15/16	2	—	8-16d	8-16d	14550	2160	2590	—	2010	—	2310	—	2510	+ 114 %
	HUS412	14	3 9/16	10 1/2	2	—	10-16d	10-16d	18033	2700	3240	—	2510	—	2885	—	3140	+ 129 %
	HU412 Min	14	3 9/16	10 5/16	2 1/2	—	16-16d	6-10d	14316	905	1085	—	2145	—	2465	—	2680	+ 268 %
	HU412 Max	14	3 9/16	10 5/16	2 1/2	—	22-16d	10-10d	15933	1505	1810	—	2950	—	3390	—	3685	+ 290 %
4x14	LUS410	18	3 9/16	8 3/4	2	—	8-16d	6-16d	10906	1710	1745	—	1765	—	2030	—	2210	Lowest
	LUS414	18	3 9/16	10 3/4	2	—	10-16d	6-16d	12750	1710	1745	—	2030	—	2335	—	2540	+ 33 %
	U414	16	3 9/16	10	2	16-10d	16-16d	6-10d	11000	890	1065	1775	2130	2040	2445	2220	2660	+ 93 %
	HUS412	14	3 9/16	10 1/2	2	—	10-16d	10-16d	18033	2700	3240	—	2510	—	2885	—	3140	+ 129 %
	HU414 Min	14	3 9/16	12 5/8	2 1/2	—	18-16d	8-10d	15166	1205	1445	—	2410	—	2775	—	3015	+ 333 %
	HU414 Max	14	3 9/16	12 5/8	2 1/2	—	24-16d	12-10d	18196	1810	2170	—	3215	—	3700	—	4020	+ 355 %
4x16	U414	16	3 9/16	10	2	16-10d	16-16d	6-10d	11000	890	1065	1775	2130	2040	2445	2220	2660	Lowest
	HUS412	14	3 9/16	10 1/2	2	—	10-16d	10-16d	18033	2700	3240	—	2510	—	2885	—	3140	+ 19 %
	HU416 Min	14	3 9/16	13 5/8	2 1/2	—	20-16d	8-10d	15933	1205	1445	—	2680	—	3080	—	3350	+ 167 %
	HU416 Max	14	3 9/16	13 5/8	2 1/2	—	26-16d	12-10d	18196	1810	2170	—	3485	—	4005	—	4355	+ 178 %
6x6	U66	16	5 1/2	5	2	8-10d	8-16d	4-10d	7033	590	710	890	1065	1020	1225	1110	1330	*
	HU66 Min	14	5 1/2	4 3/16	2 1/2	—	8-16d	4-16d	9474	715	860	—	1070	—	1235	—	1340	*
	HU66 Max	14	5 1/2	4 3/16	2 1/2	—	12-16d	6-16d	11383	1070	1285	—	1610	—	1850	—	2010	*
6x8	U66	16	5 1/2	5	2	8-10d	8-16d	4-10d	7033	590	710	890	1065	1020	1225	1110	1330	*
	HU68 Min	14	5 1/2	5 13/16	2 1/2	—	10-16d	4-16d	11383	715	860	—	1340	—	1540	—	1675	*
	HU68 Max	14	5 1/2	5 13/16	2 1/2	—	14-16d	6-16d	14566	1070	1285	—	1875	—	2155	—	2345	*
6x10	U610	16	5 1/2	8 1/2	2	14-10d	14-16d	6-10d	11000	890	1065	1555	1860	1785	2140	1940	2330	*
	HU610 Min	14	5 1/2	7 5/8	2 1/2	—	14-16d	6-16d	14566	1070	1285	—	1875	—	2155	—	2345	*
	HU610 Max	14	5 1/2	7 5/8	2 1/2	—	18-16d	8-16d	15166	1430	1715	—	2410	—	2775	—	3015	*
6x12	HU612 Min	14	5 1/2	9 3/8	2 1/2	—	16-16d	6-16d	14316	1070	1285	—	2145	—	2465	—	2680	*
	HU612 Max	14	5 1/2	9 3/8	2 1/2	—	22-16d	8-16d	15933	1430	1715	—	2950	—	3390	—	3685	*
6x14	HU614 Min	14	5 1/2	11 5/8	2 1/2	—	18-16d	8-16d	15166	1430	1715	—	2410	—	2775	—	3015	*
	HU614 Max	14	5 1/2	11 5/8	2 1/2	—	24-16d	12-16d	18196	2145	2575	—	3215	—	3700	—	4020	*
6x16	HU616 Min	14	5 1/2	12 1/16	2 1/2	—	20-16d	8-16d	15933	1430	1715	—	2680	—	3080	—	3350	*
	HU616 Max	14	5 1/2	12 1/16	2 1/2	—	26-16d	12-16d	18196	2145	2575	—	3485	—	4005	—	4355	*
8x8	HU88 Min	14	7 1/2	6 5/8	2 1/2	—	10-16d	4-16d	11383	715	860	—	1340	—	1540	—	1675	*
	HU88 Max	14	7 1/2	6 5/8	2 1/2	—	14-16d	6-16d	14566	1070	1285	—	1875	—	2155	—	2345	*
8x10	HU810 Min	14	7 1/2	8 3/8	2 1/2	—	14-16d	6-16d	14566	1070	1285	—	1875	—	2155	—	2345	*
	HU810 Max	14	7 1/2	8 3/8	2 1/2	—	18-16d	8-16d	15166	1430	1715	—	2410	—	2775	—	3015	*
8x12	HU812 Min	14	7 1/2	10 1/8	2 1/2	—	16-16d	6-16d	14316	1070	1285	—	2145	—	2465	—	2680	*
	HU812 Max	14	7 1/2	10 1/8	2 1/2	—	22-16d	8-16d	15933	1430	1715	—	2950	—	3390	—	3685	*
8x14	HU814 Min	14	7 1/2	11 7/8	2 1/2	—	18-16d	8-16d	15166	1430	1715	—	2410	—	2775	—	3015	*
	HU814 Max	14	7 1/2	11 7/8	2 1/2	—	24-16d	12-16d	18196	2145	2575	—	3215	—	3700	—	4020	*
8x16	HU816 Min	14	7 1/2	13 5/8	2 1/2	—	20-16d	8-16d	15933	1430	1715	—	2680	—	3080	—	3350	*
	HU816 Max	14	7 1/2	13 5/8	2 1/2	—	26-16d	12-16d	18196	2145	2575	—	3485	—	4005	—	4355	*

1. 10d common nails or 16d sinkers (9 gauge x 3¼") may be used instead of the specified 16d nails at 0.84 of the table load value.
2. 16d sinkers (9 gauge x 3¼") may be used instead of the specified 10d commons with no load reduction.
3. Roof loads are 125% of floor loads unless limited by other criteria.
4. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
5. MIN nailing quantity and load values—fill all round holes; MAX nailing quantity and load values—fill all round and triangle holes.
6. **DF/SP loads can be used for LVL. See page 5 for headers with reduced capacity due to installation with different nails.**

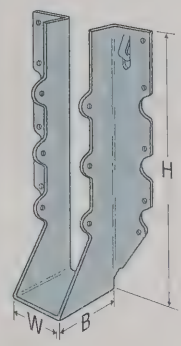
* Hangers do not have an Installed Cost Index as they are used for specialty applications.

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SIMPSON Strong-Tie CONNECTORS

Face Mount Hangers - Solid Sawn Lumber (SPF)

Joist Size	Model No.	Ga	Dimensions W	H	B	Fasteners Header 10d	Header 16d	Joist	Down Avg Ult	Spruce-Pine-Fir Allowable Loads Uplift (133)	Uplift (160)	Floor (100) 10d	Floor (100) 16d	Snow (115) 10d	Snow (115) 16d	Roof (125) 10d	Roof (125) 16d
SAWN LUMBER SIZES																	
2x4	LUP24	18	1 5/16	3 1/8	1 1/2	4-10d	4-16d	2 PRONG	2817	—	—	385	460	440	530	480	575
	LU24	20	1 5/16	3 1/8	1 1/2	4-10d	4-16d	2-10d×1 1/2	2333	210	255	385	460	440	530	480	575
	LUS24	18	1 5/16	3 1/8	1 3/4	4-10d	—	2-10d	3850	390	465	540	—	625	—	675	—
	U24	16	1 5/16	3 1/8	1 1/2	4-10d	4-16d	2-10d×1 1/2	4117	210	250	385	460	440	530	480	575
	HU26	14	1 5/16	3 1/16	2 1/4	—	4-16d	2-10d×1 1/2	5270	210	250	—	465	—	535	—	580
DBL 2x4	LUS24-2	18	3 1/8	3 1/8	2	—	4-16d	2-16d	5303	465	530	—	640	—	735	—	800
	U24-2	16	3 1/8	3	2	4-10d	4-16d	2-10d	4117	255	305	385	460	440	530	480	575
	HU24-2	14	3 1/8	3 1/16	2 1/2	—	4-16d	2-10d	5270	260	315	—	465	—	535	—	580
2x6	LUS26	18	1 5/16	4 3/4	1 3/4	4-10d	—	4-10d	5167	780	935	700	—	805	—	875	—
	LUP26	18	1 5/16	4 3/4	2	6-10d	6-16d	4 PRONG	3937	—	—	575	690	660	795	720	860
	LU26	20	1 5/16	4 3/4	1 1/2	6-10d	6-16d	4-10d×1 1/2	3217	420	505	575	690	660	795	720	860
	U26	16	1 5/16	4 3/4	2	6-10d	6-16d	4-10d×1 1/2	4950	415	500	575	690	660	795	720	860
	HU26	14	1 5/16	3 1/16	2 1/4	—	4-16d	2-10d×1 1/2	5270	210	250	—	465	—	535	—	580
	HUS26	16	1 5/8	5 1/8	3	—	14-16d	6-16d	10000	1390	1550	—	2155	—	2475	—	2540
DBL 2x6	LUS26-2	18	3 1/8	4 7/8	2	—	4-16d	4-16d	6076	925	1115	—	820	—	945	—	1025
	U26-2	16	3 1/8	5	2	8-10d	8-16d	4-10d	7033	510	615	770	920	885	1060	960	1150
	HUS26-2	14	3 1/8	5 5/16	2	—	4-16d	4-16d	8033	875	1055	—	825	—	950	—	1030
	HU26-2 Min	14	3 1/8	5 3/8	2 1/2	—	8-16d	4-10d	9474	525	625	—	930	—	1065	—	1160
	HU26-2 Max	14	3 1/8	5 3/8	2 1/2	—	12-16d	6-10d	11383	785	940	—	1390	—	1600	—	1740
TPL 2x6	LUS26-3	18	4 5/8	4 1/8	2	—	4-16d	4-16d	6433	925	1115	—	820	—	945	—	1025
	U26-3	16	4 5/8	4 1/4	2	8-10d	8-16d	2-10d	7033	510	615	770	920	885	1060	960	1150
	HU26-3 Min	14	4 1/16	5 1/2	2 1/2	—	8-16d	4-10d	9474	525	625	—	930	—	1065	—	1160
	HU26-3 Max	14	4 1/16	5 1/2	2 1/2	—	12-16d	6-10d	11383	785	940	—	1390	—	1600	—	1740
2x8	LUS26	18	1 5/16	4 3/4	1 3/4	4-10d	—	4-10d	5167	780	935	700	—	805	—	875	—
	LUP26	18	1 5/16	4 3/4	2	6-10d	6-16d	4 PRONG	3937	—	—	575	690	660	795	720	860
	LU26	20	1 5/16	4 3/4	1 1/2	6-10d	6-16d	4-10d×1 1/2	3217	420	505	575	690	660	795	720	860
	LUS28	18	1 5/16	6 5/8	1 3/4	6-10d	—	4-10d	6067	780	935	890	—	1025	—	1115	—
	LUP28	18	1 5/16	6 5/8	2	8-10d	8-16d	6 PRONG	6167	—	—	770	920	885	1060	960	1150
	LU28	20	1 5/16	6 3/8	1 1/2	8-10d	8-16d	6-10d×1 1/2	4017	630	760	770	920	885	1060	960	1150
	U26	16	1 5/16	4 3/4	2	6-10d	6-16d	4-10d×1 1/2	4950	415	500	575	690	660	795	720	860
	HU28	14	1 5/16	5 1/4	2 1/4	—	6-16d	4-10d×1 1/2	6683	415	500	—	695	—	800	—	870
	HUS26	16	1 5/8	5 1/8	3	—	14-16d	6-16d	10000	1390	1550	—	2155	—	2475	—	2540
	HUS28	16	1 5/8	7	3	—	22-16d	8-16d	13167	1855	2000	—	2580	—	2680	—	2745
DBL 2x8	LUS26-2	18	3 1/8	4 7/8	2	—	4-16d	4-16d	6076	925	1115	—	820	—	945	—	1025
	LUS28-2	18	3 1/8	7	2	—	6-16d	4-16d	7750	925	1115	—	1050	—	1210	—	1315
	U26-2	16	3 1/8	5	2	8-10d	8-16d	4-10d	7033	510	615	770	920	885	1060	960	1150
	HUS28-2	14	3 1/8	7 5/16	2	—	6-16d	6-16d	11190	1315	1550	—	1240	—	1425	—	1550
	HU28-2 Min	14	3 1/8	7	2 1/2	—	10-16d	4-10d	11383	525	625	—	1160	—	1335	—	1450
	HU28-2 Max	14	3 1/8	7	2 1/2	—	14-16d	6-10d	14566	785	940	—	1625	—	1870	—	2030
TPL 2x8	LUS28-3	18	4 5/8	6 1/4	2	—	6-16d	4-16d	7500	925	1115	—	1050	—	1210	—	1315
	U26-3	16	4 5/8	4 1/4	2	8-10d	8-16d	2-10d	7033	510	615	770	920	885	1060	960	1150
2x10	LUS28	18	1 5/16	6 5/8	1 3/4	6-10d	—	4-10d	6067	780	935	890	—	1025	—	1115	—
	LUP28	18	1 5/16	6 5/8	2	8-10d	8-16d	6 PRONG	6167	—	—	770	920	885	1060	960	1150
	LU28	20	1 5/16	6 3/8	1 1/2	8-10d	8-16d	6-10d×1 1/2	4017	630	760	770	920	885	1060	960	1150
	LUS210	18	1 5/16	7 3/16	1 3/4	8-10d	—	4-10d	7750	780	935	1085	—	1245	—	1355	—
	LUP210	18	1 5/16	7 3/16	2	10-10d	10-16d	6 PRONG	6533	—	—	960	1150	1105	1275	1200	1275
	LU210	20	1 5/16	7 3/16	1 1/2	10-10d	10-16d	6-10d×1 1/2	6250	630	760	960	1150	1105	1320	1200	1440
	U210	16	1 5/16	7 3/16	2	10-10d	10-16d	6-10d×1 1/2	5583	625	750	960	1150	1105	1320	1200	1440
	HU210	14	1 5/16	7 5/8	2 1/4	—	8-16d	4-10d×1 1/2	9474	415	500	—	930	—	1065	—	1160
	HUS210	16	1 5/8	9	3	—	30-16d	10-16d	18833	2310	2780	—	2745	—	2870	—	2955
DBL 2x10	LUS28-2	18	3 1/8	7	2	—	6-16d	4-16d	7750	925	1115	—	1050	—	1210	—	1315
	LUS210-2	18	3 1/8	9	2	—	8-16d	6-16d	10906	1390	1670	—	1465	—	1680	—	1830
	U210-2	16	3 1/8	8 1/2	2	14-10d	14-16d	6-10d	11000	770	920	1345	1610	1545	1850	1680	2010
	HUS210-2	14	3 1/8	9 3/16	2	—	8-16d	8-16d	14550	1755	2105	—	1650	—	1900	—	2065
	HU210-2 Min	14	3 1/8	8 13/16	2 1/2	—	14-16d	6-10d	14566	785	940	—	1625	—	1870	—	2030
	HU210-2 Max	14	3 1/8	8 13/16	2 1/2	—	18-16d	10-10d	15166	1305	1570	—	2090	—	2400	—	2610
TPL 2x10	LUS28-3	18	4 5/8	6 1/4	2	—	6-16d	4-16d	7500	925	1115	—	1050	—	1210	—	1315
	LUS210-3	18	4 5/8	8 3/16	2	—	8-16d	6-16d	7500	1390	1670	—	1465	—	1680	—	1830
	U210-3	16	4 5/8	7 3/4	2	14-10d	14-16d	6-10d	11000	770	920	1345	1610	1545	1850	1680	2010
	HU210-3 Min	14	4 1/16	8 5/16	2 1/2	—	14-16d	6-10d	14566	785	940	—	1625	—	1870	—	2030
	HU210-3 Max	14	4 1/16	8 5/16	2 1/2	—	18-16d	10-10d	15166	1305	1570	—	2090	—	2400	—	2610
2x12	LUS210	18	1 5/16	7 3/16	1 3/4	8-10d	—	4-10d	7750	780	935	1085	—	1245	—	1355	—
	LUP210	18	1 5/16	7 3/16	2	10-10d	10-16d	6 PRONG	6533	—	—	960	1150	1105	1275	1200	1275



See footnotes on opposite page.

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Face Mount Hangers - Solid Sawn Lumber (SPF)

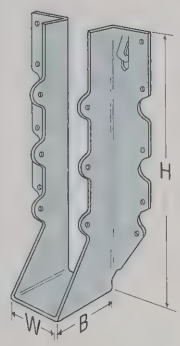
Joist Size	Model No.	Ga	Dimensions W	H	B	Fasteners Header 10d	Header 16d	Joist	Down Avg Ult	Spruce-Pine-Fir Allowable Loads Uplift (133)	Uplift (160)	Floor (100) 10d	Floor (100) 16d	Snow (115) 10d	Snow (115) 16d	Roof (125) 10d	Roof (125) 16d
SAWN LUMBER SIZES																	
2x12	LU210	20	1⅜	7¹³⁄₁₆	1½	10-10d	10-16d	6-10d×1½	6233	630	760	960	1150	1105	1320	1200	1440
	U210	16	1⅜	7¹³⁄₁₆	2	10-10d	10-16d	6-10d×1½	5583	625	750	960	1150	1105	1320	1200	1440
	HU212	14	1⅜	9	2¼	—	10-16d	6-10d×1½	11383	625	750	—	1160	—	1335	—	1440
	HUS210	16	1⅝	9	3	—	30-16d	10-16d	18833	2320	2780	—	2745	—	2870	—	2955
DBL 2x12	LUS210-2	18	3⅛	9	2	—	8-16d	6-16d	10906	1390	1670	—	1465	—	1680	—	1830
	U210-2	16	3⅛	8½	2	14-10d	14-16d	6-10d	11000	770	920	1345	1610	1545	1850	1680	2010
	LUS214-2	18	3⅛	10¹⁵⁄₁₆	2	—	10-16d	6-16d	12750	1390	1670	—	1695	—	1945	—	2115
	HUS210-2	14	3⅛	9⅞	2	—	8-16d	8-16d	14550	1755	2105	—	1650	—	1900	—	2065
	HUS212-2	14	3⅛	10¾	2	—	10-16d	10-16d	18033	2195	2630	—	2065	—	2375	—	2580
	HU212-2 Min	14	3⅛	10⅞	2½	—	16-16d	6-10d	14316	785	940	—	1855	—	2135	—	2320
	HU212-2 Max	14	3⅛	10⅞	2½	—	22-16d	10-10d	15933	1305	1570	—	2550	—	2935	—	3190
TPL 2x12	LUS28-3	18	4⅝	6¼	2	—	6-16d	4-16d	7500	925	1115	—	1050	—	1210	—	1315
	LUS210-3	18	4⅝	8⅞	2	—	8-16d	6-16d	7500	1390	1670	—	1465	—	1680	—	1830
	HU212-3 Min	14	4¹⁄₁₆	10⅝	2½	—	16-16d	6-10d	14316	785	940	—	1855	—	2135	—	2320
	HU212-3 Max	14	4¹⁄₁₆	10⅝	2½	—	22-16d	10-10d	15933	1305	1570	—	2550	—	2935	—	3190
	U210-3	16	4⅝	7¾	2	14-10d	14-16d	6-10d	11000	770	920	1345	1610	1545	1850	1680	2010
2x14	LUS210	18	1⅜	7¹³⁄₁₆	1¾	8-10d	—	4-10d	7750	780	935	1085	—	1245	—	1355	—
	LUP210	18	1⅜	7¹³⁄₁₆	2	10-10d	10-16d	6 PRONG	6533	—	—	—	1150	—	1275	—	1275
	LU210	20	1⅜	7¹³⁄₁₆	1¾	10-10d	10-16d	6-10d×1½	6233	630	760	960	1150	1105	1320	1200	1440
	U210	16	1⅜	7¹³⁄₁₆	2	10-10d	10-16d	6-10d×1½	5583	625	750	960	1150	1105	1320	1200	1440
	HU214	14	1⅜	10⅞	2¼	—	12-16d	6-10d×1½	11383	625	750	—	1390	—	1600	—	1740
	U214	16	1⅜	10	2	12-10d	12-16d	8-10d×1½	5583	830	1000	1150	1380	1325	1585	1440	1725
DBL 2x14	U210-2	16	3⅛	8½	2	14-10d	14-16d	6-10d	11000	770	920	1345	1610	1545	1850	1680	2010
	LUS214-2	18	3⅛	10¹⁵⁄₁₆	2	—	10-16d	6-16d	12750	1390	1670	—	1695	—	1945	—	2115
	HUS212-2	14	3⅛	10¾	2	—	10-16d	10-16d	18033	2195	2630	—	2065	—	2375	—	2580
	HU212-2 Min	14	3⅛	10⅞	2½	—	16-16d	6-10d	14316	785	940	—	1855	—	2135	—	2320
	HU212-2 Max	14	3⅛	10⅞	2½	—	22-16d	10-10d	15933	1305	1570	—	2550	—	2935	—	3190
	HU214-2 Min	14	3⅛	12¹³⁄₁₆	2½	—	18-16d	8-10d	15166	1045	1255	—	2090	—	2400	—	2610
	HU214-2 Max	14	3⅛	12¹³⁄₁₆	2½	—	24-16d	12-10d	18196	1570	1880	—	2785	—	3200	—	3480
TPL 2x14	U210-3	16	4⅝	7¾	2	14-10d	14-16d	6-10d	11000	770	920	1345	1610	1545	1850	1680	2010
	HU214-3 Min	14	4¹⁄₁₆	12⅛	2½	—	18-16d	8-10d	15166	1045	1255	—	2090	—	2400	—	2610
	HU214-3 Max	14	4¹⁄₁₆	12⅛	2½	—	24-16d	12-10d	18196	1570	1880	—	2785	—	3200	—	3480
2x16	U214	16	1⅜	10	2	12-10d	12-16d	8-10d×1½	5583	830	1000	1150	1380	1325	1585	1440	1725
	HU214	14	1⅜	10⅞	2¼	—	12-16d	6-10d×1½	11383	625	750	—	1390	—	1600	—	1740
DBL 2x16	HUS212-2	14	3⅛	10¾	2	—	10-16d	10-16d	18033	2195	2630	—	2065	—	2375	—	2580
	HU216-2 Min	14	3⅛	13⅜	2½	—	20-16d	8-10d	15933	1045	1255	—	2320	—	2670	—	2900
	HU216-2 Max	14	3⅛	13⅜	2½	—	26-16d	12-10d	18196	1570	1880	—	3015	—	3470	—	3770
TPL 2x16	HU216-3 Min	14	4¹⁄₁₆	13⅜	2½	—	20-16d	8-10d	15933	1045	1255	—	2320	—	2670	—	2900
	HU216-3 Max	14	4¹⁄₁₆	13⅜	2½	—	26-16d	12-10d	18196	1570	1880	—	3015	—	3470	—	3770
3x4	U34	16	2⅜	3⅜	2	4-10d	4-16d	2-10d×1½	4117	210	250	385	460	440	530	480	575
	HU34	14	2⅜	3⅜	2½	—	4-16d	2-10d×1½	5270	210	250	—	465	—	535	—	580
3x6	U36	16	2⅜	5⅜	2	8-10d	8-16d	4-10d×1½	7033	415	500	770	920	885	1060	960	1150
	LUS36	18	2⅜	5¼	2	—	4-16d	4-16d	5167	925	1115	—	820	—	945	—	1025
	HU36	14	2⅜	5⅜	2½	—	8-16d	4-10d×1½	9474	415	500	—	930	—	1065	—	1160
3x8	U36	16	2⅜	5⅜	2	8-10d	8-16d	4-10d×1½	7033	415	500	770	920	885	1060	960	1150
	HU38	14	2⅜	7⅛	2½	—	10-16d	4-10d×1½	11383	415	500	—	1160	—	1335	—	1450
3x10	U310	16	2⅜	8⅞	2	14-10d	14-16d	6-10d×1½	11000	625	750	1345	1610	1545	1850	1680	2010
	LUS310	18	2⅜	7¼	2	—	6-16d	4-16d	7750	925	1115	—	1050	—	1210	—	1315
	HU310	14	2⅜	8⅞	2½	—	14-16d	6-10d×1½	14566	625	750	—	1625	—	1870	—	2030
3x12	U310	16	2⅜	8⅞	2	14-10d	14-16d	6-10d×1½	11000	625	750	1345	1610	1545	1850	1680	2010
	HU312	14	2⅜	10⅝	2½	—	16-16d	6-10d×1½	14316	625	750	—	1855	—	2135	—	2320
3x14	U314	16	2⅜	10½	2	16-10d	16-16d	6-10d×1½	11000	625	750	1535	1840	1765	2115	1920	2300
	HU314	14	2⅜	12⅜	2½	—	18-16d	8-10d×1½	15166	830	1000	—	2090	—	2400	—	2610
3x16	U314	16	2⅜	10½	2	16-10d	16-16d	6-10d×1½	11000	625	750	1535	1840	1765	2115	1920	2300
	HU316	14	2⅜	14⅛	2½	—	20-16d	8-10d×1½	15933	830	1000	—	2320	—	2670	—	2900
4x4	LUS44	18	3⅜	3	2	—	4-16d	2-16d	5303	465	530	—	640	—	735	—	800
	U44	16	3⅜	2⅞	2	4-10d	4-16d	2-10d	4117	255	305	385	460	440	530	480	575
	HU44	14	3⅜	2⅞	2½	—	4-16d	2-10d	5270	260	315	—	465	—	535	—	580
4x6	LUS46	18	3⅜	4¾	2	—	4-16d	4-16d	6076	925	1115	—	820	—	945	—	1025
	U46	16	3⅜	4⅞	2	8-10d	8-16d	4-10d	7033	510	615	770	920	885	1060	960	1150
	HUS46	14	3⅜	5	2	—	4-16d	4-16d	8033	875	1055	—	825	—	950	—	1030
	HU46 Min	14	3⅜	5⅜	2½	—	8-16d	4-10d	9474	525	625	—	930	—	1065	—	1160
	HU46 Max	14	3⅜	5⅜	2½	—	12-16d	6-10d	11383	785	940	—	1390	—	1600	—	1740

See footnotes on opposite page.

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Face Mount Hangers - Solid Sawn Lumber (SPF)

Joist Size	Model No.	Ga	Dimensions W	H	B	Fasteners Header 10d	Header 16d	Joist	Down Avg Ult	Spruce-Pine-Fir Allowable Loads Uplift (133)	Uplift (160)	Floor (100) 10d	Floor (100) 16d	Snow (115) 10d	Snow (115) 16d	Roof (125) 10d	Roof (125) 16d
SAWN LUMBER SIZES																	
4x8	LUS46	18	3⁹⁄₁₆	4¾	2	—	4-16d	4-16d	6076	925	1115	—	820	—	945	—	1025
	U46	16	3⁹⁄₁₆	4⅞	2	8-10d	8-16d	4-10d	7033	510	615	770	920	885	1060	960	1150
	LUS48	18	3⁹⁄₁₆	6¾	2	—	6-16d	4-16d	7750	925	1115	—	1050	—	1210	—	1315
	HUS48	14	3⁹⁄₁₆	6⁵⁄₁₆	2	—	6-16d	6-16d	11190	1315	1550	—	1240	—	1425	—	1550
	HU48 MIN	14	3⁹⁄₁₆	6¹³⁄₁₆	2½	—	10-16d	4-10d	11383	525	625	—	1160	—	1335	—	1450
	HU48 MAX	14	3⁹⁄₁₆	6¹³⁄₁₆	2½	—	14-16d	6-10d	14566	785	940	—	1625	—	1870	—	2030
4x10	LUS48	18	3⁹⁄₁₆	6¾	2	—	6-16d	4-16d	7750	925	1115	—	1050	—	1210	—	1315
	LUS410	18	3⁹⁄₁₆	8¾	2	—	8-16d	6-16d	10906	1390	1670	—	1465	—	1680	—	1830
	U410	16	3⁹⁄₁₆	8⅜	2	14-10d	14-16d	6-10d	11000	770	920	1345	1610	1545	1850	1680	2010
	HUS410	14	3⁹⁄₁₆	8⁵⁄₁₆	2	—	8-16d	8-16d	14550	1755	2105	—	1650	—	1900	—	2065
	HU410 MIN	14	3⁹⁄₁₆	8⅝	2½	—	14-16d	6-10d	14566	785	940	—	1625	—	1870	—	2030
	HU410 MAX	14	3⁹⁄₁₆	8⅝	2½	—	18-16d	10-10d	15166	1305	1570	—	2090	—	2400	—	2610
4x12	LUS410	18	3⁹⁄₁₆	8¾	2	—	8-16d	6-16d	10906	1390	1670	—	1465	—	1680	—	1830
	LUS414	18	3⁹⁄₁₆	10¾	2	—	10-16d	6-16d	12750	1390	1670	—	1695	—	1945	—	2115
	U410	16	3⁹⁄₁₆	8⅜	2	14-10d	14-16d	6-10d	11000	770	920	1345	1610	1545	1850	1680	2010
	HUS410	14	3⁹⁄₁₆	8⁵⁄₁₆	2	—	8-16d	8-16d	14550	1755	2105	—	1650	—	1900	—	2065
	HUS412	14	3⁹⁄₁₆	10½	2	—	10-16d	10-16d	18033	2195	2630	—	2065	—	2375	—	2580
	HU412 MIN	14	3⁹⁄₁₆	10⁵⁄₁₆	2½	—	16-16d	6-10d	14316	785	940	—	1855	—	2135	—	2320
	HU412 MAX	14	3⁹⁄₁₆	10⁵⁄₁₆	2½	—	22-16d	10-10d	15933	1305	1570	—	2550	—	2935	—	3190
4x14	LUS410	18	3⁹⁄₁₆	8¾	2	—	8-16d	6-16d	10906	1390	1670	—	1465	—	1680	—	1830
	LUS414	18	3⁹⁄₁₆	10¾	2	—	10-16d	6-16d	12750	1390	1670	—	1695	—	1945	—	2115
	U414	16	3⁹⁄₁₆	10	2	16-10d	16-16d	6-10d	11000	770	920	1535	1840	1765	2115	1920	2300
	HUS412	14	3⁹⁄₁₆	10½	2	—	10-16d	10-16d	18033	2195	2630	—	2065	—	2375	—	2580
	HU414 MIN	14	3⁹⁄₁₆	12⅝	2½	—	18-16d	8-10d	15166	1045	1255	—	2090	—	2400	—	2610
	HU414 MAX	14	3⁹⁄₁₆	12⅝	2½	—	24-16d	12-10d	18196	1570	1880	—	2785	—	3200	—	3480
4x16	U414	16	3⁹⁄₁₆	10	2	16-10d	16-16d	6-10d	11000	770	920	1535	1840	1765	2115	1920	2300
	HUS412	14	3⁹⁄₁₆	10½	2	—	10-16d	10-16d	18033	2195	2630	—	2065	—	2375	—	2580
	HU416 MIN	14	3⁹⁄₁₆	13⅝	2½	—	20-16d	8-10d	15933	1045	1255	—	2320	—	2670	—	2900
	HU416 MAX	14	3⁹⁄₁₆	13⅝	2½	—	26-16d	12-10d	18196	1570	1880	—	3015	—	3470	—	3770
6x6	U66	16	5½	5	2	8-10d	8-16d	4-10d	7033	590	710	770	920	885	1060	960	1150
	HU66 MIN	14	5½	4³⁄₁₆	2½	—	8-16d	4-16d	9474	715	860	—	930	—	1065	—	1160
	HU66 MAX	14	5½	4³⁄₁₆	2½	—	12-16d	6-16d	11383	1070	1285	—	1390	—	1600	—	1740
6x8	U66	16	5½	5	2	8-10d	8-16d	4-10d	7033	590	710	770	920	885	1060	960	1150
	HU68 MIN	14	5½	5¹³⁄₁₆	2½	—	10-16d	4-16d	11383	715	860	—	1160	—	1335	—	1450
	HU68 MAX	14	5½	5¹³⁄₁₆	2½	—	14-16d	6-16d	14566	1070	1285	—	1625	—	1870	—	2030
6x10	U610	16	5½	8½	2	14-10d	14-16d	6-10d	11000	890	1065	1345	1610	1545	1850	1680	2010
	HU610 MIN	14	5½	7⅝	2½	—	14-16d	6-16d	14566	1070	1285	—	1625	—	1870	—	2030
	HU610 MAX	14	5½	7⅝	2½	—	18-16d	8-16d	15166	1430	1715	—	2090	—	2400	—	2610
6x12	HU612 MIN	14	5½	9⅜	2½	—	16-16d	6-16d	14316	1070	1285	—	1855	—	2135	—	2320
	HU612 MAX	14	5½	9⅜	2½	—	22-16d	8-16d	15933	1430	1715	—	2550	—	2935	—	3190
6x14	HU614 MIN	14	5½	11⅝	2½	—	18-16d	8-16d	15166	1430	1715	—	2090	—	2400	—	2610
	HU614 MAX	14	5½	11⅝	2½	—	24-16d	12-16d	18196	2145	2575	—	2785	—	3200	—	3480
6x16	HU616 MIN	14	5½	12¹⁄₁₆	2½	—	20-16d	8-16d	15933	1430	1715	—	2320	—	2670	—	2900
	HU616 MAX	14	5½	12¹⁄₁₆	2½	—	26-16d	12-16d	18196	2145	2575	—	3015	—	3470	—	3770
8x8	HU88 MIN	14	7½	6⅝	2½	—	10-16d	4-16d	11383	715	860	—	1160	—	1335	—	1450
	HU88 MAX	14	7½	6⅝	2½	—	14-16d	6-16d	14566	1070	1285	—	1625	—	1870	—	2030
8x10	HU810 MIN	14	7½	8⅜	2½	—	14-16d	6-16d	14566	1070	1285	—	1625	—	1870	—	2030
	HU810 MAX	14	7½	8⅜	2½	—	18-16d	8-16d	15166	1430	1715	—	2090	—	2400	—	2610
8x12	HU812 MIN	14	7½	10⅛	2½	—	16-16d	6-16d	14316	1070	1285	—	1855	—	2135	—	2320
	HU812 MAX	14	7½	10⅛	2½	—	22-16d	8-16d	15933	1430	1715	—	2550	—	2935	—	3190
8x14	HU814 MIN	14	7½	11⅞	2½	—	18-16d	8-16d	15166	1430	1715	—	2090	—	2400	—	2610
	HU814 MAX	14	7½	11⅞	2½	—	24-16d	12-16d	18196	2145	2575	—	2785	—	3200	—	3480
8x16	HU816 MIN	14	7½	13⅝	2½	—	20-16d	8-16d	15933	1430	1715	—	2320	—	2670	—	2900
	HU816 MAX	14	7½	13⅝	2½	—	26-16d	12-16d	18196	2145	2575	—	3015	—	3470	—	3770



1. 10d common nails or 16d sinkers (9 gauge x 3¼") may be used instead of the specified 16d nails at 0.84 of the table load value.
2. 16d sinkers (9 gauge x 3¼") may be used instead of the specified 10d commons with no load reduction.
3. Roof loads are 125% of floor loads unless limited by other criteria.
4. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
5. MIN nailing quantity and load values—fill all round holes; MAX nailing quantity and load values—fill all round and triangle holes.
6. **DF/SP loads can be used for LVL. See page 5 for headers with reduced capacity due to installation with different nails.**

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Face Mount Hangers - Rough Lumber (DF & SP)

Joist Size	Model No.	Ga	Dimensions W	H	B	Fasteners Header 10d	Header 16d	Joist	Down Avg Ult	Doug Fir Larch/Southern Pine Allowable Loads Uplift (133)	Uplift (160)	Floor (100) 10d	Floor (100) 16d	Snow (115) 10d	Snow (115) 16d	Roof (125) 10d	Roof (125) 16d
ROUGH LUMBER SIZES																	
2x4 (R)	LU24R	20	2	2 13/16	1½	—	4-16d	2-10d×1½	2233	245	265	—	530	—	610	—	665
	U24R	16	2	3⅝	2	4-10d	4-16d	2-10d×1½	4117	240	265	445	530	510	610	555	665
2x6 (R)	LU26R	20	2	4 9/16	1½	—	6-16d	4-10d×1½	5270	490	565	—	800	—	920	—	1000
	U26R	16	2	5⅝	2	8-10d	8-16d	4-10d×1½	7033	480	575	890	1065	1020	1225	1110	1330
2x8 (R)	LU28R	20	2	6⅜	1½	—	8-16d	6-10d×1½	5157	735	865	—	1065	—	1225	—	1330
	U26R	16	2	5⅝	2	8-10d	8-16d	4-10d×1½	7033	480	575	890	1065	1020	1225	1110	1330
2x10(R)	LU210R	20	2	7 9/16	2	—	10-16d	6-10d×1½	6250	735	850	—	1330	—	1530	—	1660
	U210R	16	2	9⅛	2	14-10d	14-16d	6-10d×1½	11000	720	865	1555	1860	1785	2140	1940	2330
2x12(R)	U210R	16	2	9⅛	2	14-10d	14-16d	6-10d×1½	11000	720	865	1555	1860	1785	2140	1940	2330
2x14(R)	U210R	16	2	9⅛	2	14-10d	14-16d	6-10d×1½	11000	720	865	1555	1860	1785	2140	1940	2330
4x4(R)	U44R	16	4	2⅝	2	4-10d	4-16d	2-16d	4117	355	425	445	530	510	610	555	665
4x6(R)	U46R	16	4	4⅝	2	8-10d	8-16d	4-16d	7033	710	850	890	1065	1020	1225	1110	1330
4x8(R)	U46R	16	4	4⅝	2	8-10d	8-16d	4-16d	7033	710	850	890	1065	1020	1225	1110	1330
4x10(R)	U410R	16	4	8⅛	2	14-10d	14-16d	6-16d	11000	1065	1115	1555	1860	1785	2140	1940	2330
4x12(R)	U410R	16	4	8⅛	2	14-10d	14-16d	6-16d	11000	1065	1115	1555	1860	1785	2140	1940	2330
4x14(R)	U410R	16	4	8⅛	2	14-10d	14-16d	6-16d	11000	1065	1115	1555	1860	1785	2140	1940	2330
6x6(R)	U66R	16	6	5	2	8-10d	8-16d	4-16d	7033	710	850	890	1065	1020	1225	1110	1330
6x8(R)	U66R	16	6	5	2	8-10d	8-16d	4-16d	7033	710	850	890	1065	1020	1225	1110	1330
6x10(R)	U610R	16	6	8½	2	14-10d	14-16d	6-16d	11000	1065	1115	1555	1860	1785	2140	1940	2330
6x12(R)	U610R	16	6	8½	2	14-10d	14-16d	6-16d	11000	1065	1115	1555	1860	1785	2140	1940	2330
6x14(R)	U610R	16	6	8½	2	14-10d	14-16d	6-16d	11000	1065	1115	1555	1860	1785	2140	1940	2330

Face Mount Hangers - Rough Lumber (SPF)

Joist Size	Model No.	Ga	Dimensions W	H	B	Fasteners Header 10d	Header 16d	Joist	Down Avg Ult	Spruce-Pine-Fir Allowable Loads Uplift (133)	Uplift (160)	Floor (100) 10d	Floor (100) 16d	Snow (115) 10d	Snow (115) 16d	Roof (125) 10d	Roof (125) 16d
ROUGH LUMBER SIZES																	
2x4 (R)	LU24R	20	2	2 13/16	1½	—	4-16d	2-10d×1½	2233	210	255	—	460	—	530	—	575
	U24R	16	2	3⅝	2	4-10d	4-16d	2-10d×1½	4117	210	250	385	460	440	530	480	575
2x6 (R)	LU26R	20	2	4 9/16	1½	—	6-16d	4-10d×1½	5270	420	505	—	690	—	795	—	860
	U26R	16	2	5⅝	2	8-10d	8-16d	4-10d×1½	7033	415	500	575	690	660	795	720	860
2x8 (R)	LU28R	20	2	6⅜	1½	—	8-16d	6-10d×1½	5157	630	760	—	920	—	1060	—	1150
	U26R	16	2	5⅝	2	8-10d	8-16d	4-10d×1½	7033	415	500	575	690	660	795	720	860
2x10(R)	LU210R	20	2	7 9/16	2	—	10-16d	6-10d×1½	6250	630	760	—	1150	—	1320	—	1440
	U210R	16	2	9⅛	2	14-10d	14-16d	6-10d×1½	11000	625	750	960	1150	1105	1320	1200	1440
2x12(R)	U210R	16	2	9⅛	2	14-10d	14-16d	6-10d×1½	11000	625	750	960	1150	1105	1320	1200	1440
2x14(R)	U210R	16	2	9⅛	2	14-10d	14-16d	6-10d×1½	11000	625	750	960	1150	1105	1320	1200	1440
4x4(R)	U44R	16	4	2⅝	2	4-10d	4-16d	2-16d	4117	255	305	385	460	440	530	480	575
4x6(R)	U46R	16	4	4⅝	2	8-10d	8-16d	4-16d	7033	510	615	770	920	885	1060	960	1150
4x8(R)	U46R	16	4	4⅝	2	8-10d	8-16d	4-16d	7033	510	615	770	920	885	1060	960	1150
4x10(R)	U410R	16	4	8⅛	2	14-10d	14-16d	6-16d	11000	770	920	1345	1610	1545	1850	1680	2010
4x12(R)	U410R	16	4	8⅛	2	14-10d	14-16d	6-16d	11000	770	920	1345	1610	1545	1850	1680	2010
4x14(R)	U410R	16	4	8⅛	2	14-10d	14-16d	6-16d	11000	770	920	1345	1610	1545	1850	1680	2010
6x6(R)	U66R	16	6	5	2	8-10d	8-16d	4-16d	7033	590	710	770	920	885	1060	960	1150
6x8(R)	U66R	16	6	5	2	8-10d	8-16d	4-16d	7033	590	710	770	920	885	1060	960	1150
6x10(R)	U610R	16	6	8½	2	14-10d	14-16d	6-16d	11000	890	1065	1345	1610	1545	1850	1680	2010
6x12(R)	U610R	16	6	8½	2	14-10d	14-16d	6-16d	11000	890	1065	1345	1610	1545	1850	1680	2010
6x14(R)	U610R	16	6	8½	2	14-10d	14-16d	6-16d	11000	890	1065	1345	1610	1545	1850	1680	2010

1. 10d common nails or 16d sinkers (9 gauge x 3¼") may be used instead of the specified 16d nails at 0.84 of the table load value.
2. 16d sinkers (9 gauge x 3¼") may be used instead of the specified 10d commons with no load reduction.
3. Roof loads are 125% of floor loads unless limited by other criteria.
4. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
5. DF/SP loads can be used for LVL. See page 5 for headers with reduced capacity due to installation with different nails.

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TOP FLANGE HANGERS
HUTF/HUSTF
HEAVY DUTY AND DOUBLE SHEAR JOIST HANGERS

See tables on pages 57 to 59. See Hanger Options on pages 140 and 142 for hanger modifications, which may result in reduced loads.

HUSTF has the double shear nailing advantage—distributing the joist load through two points on each nail for greater strength.

The HUTF provides a heavy-duty top flange connection.

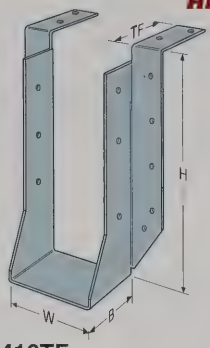
MATERIAL: See tables, pages 57 to 59.

FINISH: Galvanized. Some products available with Z-MAX coating; see Corrosion-Resistance, page 5.

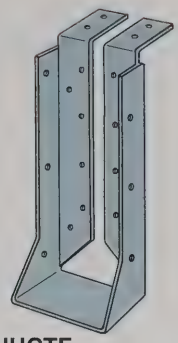
INSTALLATION: • Use all specified fasteners. See General Notes.
- Not acceptable for nailer or welded applications; see W and B hangers.
- HUTF—The minimum header or ledger size that can be used with this hanger is 3½".
- HUSTF—With 3x carrying members, use 16dx2½" nails into the header and 16d commons into the joist.

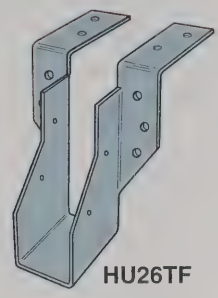
OPTIONS: • HUTF Rough beam sizes are available by special order.
- See Hanger Options on page 142 for skewed hangers.
- Available with flanges turned in (2-2x and 4x only for HUSCTF. 2⁹⁄₁₆" or greater for HUCTF). See HUCTF and HUSCTF illustrations.
- See also THA series.

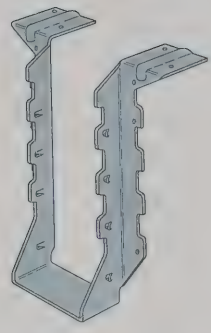
CODES: BOCA, ICBO, SBCCI NER-209; ICBO 5117; City of L.A. RR 24947, RR 24949.

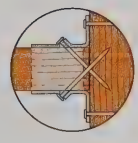


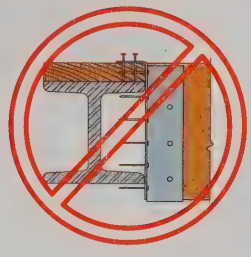
HU410TF

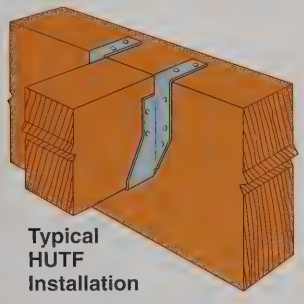

HUCTF


HU26TF


HUSTF


Double Shear Nailing


Nailer application is NOT acceptable Fasteners cannot be installed


Typical HUTF Installation

Some model configurations may differ from those shown. Production models have projected seats. Square cut seats may be ordered. Consult our factory for details.

CJT KIT CONCEALED JOIST TIE KIT

The CJT is a concealed connector. It can be installed three ways: with no routing of header/post or beam; a routed header/post, or a routed beam.

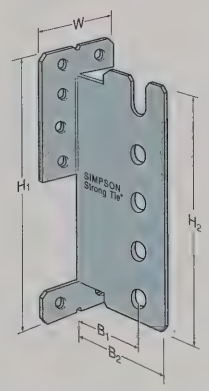
MATERIAL: 12 gauge

FINISH: Galvanized

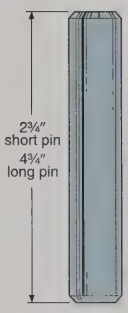
INSTALLATION: • Use all specified fasteners. See General Notes.
- The CJT Kit is supplied with all pins and screws required. Screws require a Phillips® # 3 driver.
- The joist/beam may be sloped to 45° with full table loads.
- Request F-CJT flier for installation instructions and ordering information.

OPTIONS: Order short or long pins, eg. CJT3S or CJT3L.

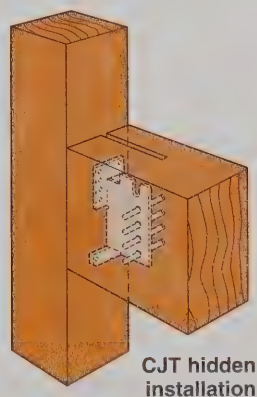
CODES: ICBO 5537.



CJT5 (others similar)

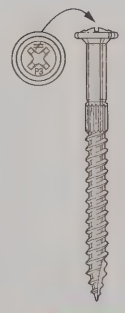


Chamfered Steel Pin


CJT hidden installation connects beam to post or header

Model No.	Joist Size	Dimensions					Fasteners		Allowable Loads			
		W	H_1	H_2	B_1	B_2	Screws	Pins	Uplift (133)	Floor (100)	Snow (115)	Roof (125)
DOUGLAS-FIR												
CJT3	4x8	2⅜	5⁹⁄₁₆	4⁷⁄₁₆	2⅝	3½	6	3-2¾ (3-4¾)	1655 (1725)	1050 (1050)	1050 (1050)	1050 (1050)
CJT4	4x10	2⅜	7	5¹⁵⁄₁₆	2⅝	3½	8	4-2¾ (4-4¾)	2460 (2460)	2440 (2440)	2805 (2805)	2815 (2815)
CJT5	4x10	2⅜	8⁹⁄₁₆	7⁷⁄₁₆	2⅝	3½	10	5-2¾ (5-4¾)	3255 (3490)	3005 (3070)	3455 (3530)	3755 (3840)
CJT6	4x12	2⅜	10	8¹⁵⁄₁₆	2⅝	3½	12	6-2¾ (6-4¾)	4005 (4775)	3535 (3535)	3990 (3990)	3990 (3990)

1. Long pin loads are listed in ( ).


SDP¼X3

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TOP FLANGE HANGERS–JB/LB/B/HB/HHB

JOIST, BEAM AND PURLIN HANGERS

SIMPSON StrongTie CONNECTORS

See tables on pages 57 to 59. See Hanger Options on pages 140 and 141 for hanger modifications, which may result in reduced loads.

Precision forming with manufacturing quality control provides dimensional accuracy and helps ensure proper bearing area and connection.

MATERIAL: See tables, pages 57 to 59.

FINISH: JB, LB, B and HB—Galvanized; HHB–all saddle hangers and all welded sloped and special hangers—Simpson gray paint. B, HB and HHB may be ordered hot-dip galvanized; specify HDG.

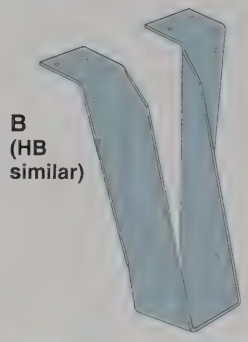
INSTALLATION: • Use specified fasteners. See General Notes and nailer table.

- LB, B, HB and HHB and may be used for weld-on applications. The minimum required weld to the top flanges is ⅛" x 2" fillet weld to each side of each top flange tab for 14 and 12 gauge and 3⁄16" x 2" fillet weld to each side of each top flange tab for 7 gauge. Distribute the weld equally on both top flanges. Welding cancels the top and face nailing requirements. Consult the code for special considerations when welding galvanized steel. The area should be well-ventilated. Weld on applications produce the maximum allowable load listed. Uplift loads do not apply to welded applications.
- Web stiffeners are required for use with this hanger style.
- Ledgers must be evaluated for each application separately. Check TF dimension, nail length and nail location on ledger.

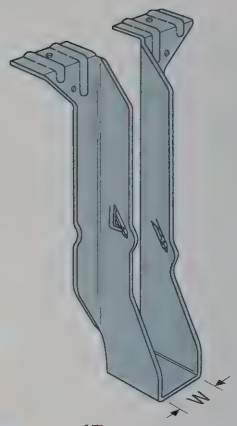
OPTIONS: • **B, HB, and HHB**

- Other widths are available; specify W dimension (the minimum W dimension is 1¾").
- Saddle hangers are made to order; add "D" to model (e.g. HHBD412); specify S (for saddle) dimension. They may be used for most conditions except at end wall locations, and are preferred for nailer applications.
- The finish on special B hangers will depend on the manufacturing process used. Check with your Simpson representative for details. Hot-dipped galvanized available: specify HDG.
- B dimensions may be increased on some models. Ordering example: B410X, B=3.5, H=9.5.
- See Hanger Options, page 141. For LBV option, see LBV.

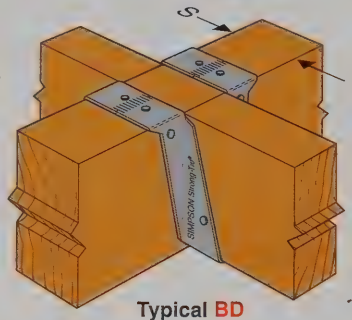
CODES: BOCA, ICBO, SBCCI NER-393; ICBO 5117; City of L.A. RR 24947, RR 24818.



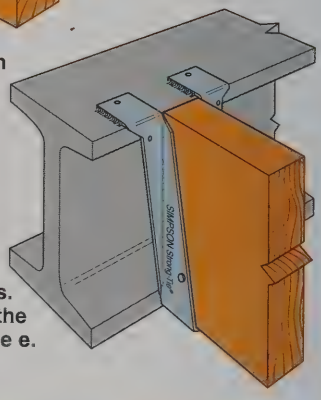
B (HB similar)



JB (LB similar, except LB216)



Typical BD Saddle Installation



LB, B, HB and HHB are acceptable for weld-on applications. See Instructions to the Installer, page 7, note e.

NAILER TABLE

This shows the maximum allowable loads for LB, B and HB hangers used on wood nailers. Nailers are wood members attached to the top of a steel I-beam, concrete or masonry wall. This table also applies to sloped-seat hangers.

Model No.	Nailer	Header Nails	Allowable Loads DF/SF	Allowable Loads SPF
LB26	2x	4-10dx1½	850	—
LB28	2x	4-10dx1½	915	—
LB210	2x	4-10dx1½	915	—
LB212	2x	4-10dx1½	915	—
LB214	2x	4-10dx1½	915	—
LB216	2x	4-10dx1½	1150	—
B	2x	6-10dx1½	1150	—
	2-2x	6-10d	1400	—
	3x	6-16dx2½	2415	—
	4x	6-16d	2415	—
HB	2-2x	8-10d	2495	—
	4x	8-16d	3610	—

B SERIES WITH VARIOUS HEADER APPLICATIONS

Model Series	Fasteners Top	Fasteners Face	Fasteners Joist[3]	Allowable Loads Header Type Uplift (133)	Uplift (160)	LVL	PSL	LSL	DF/SP	SPF	I-Joist
B	2 -10dx1½	2-10dx1½	2-10dx1½	245	295	1500	1825	—	1150	1150	—
	2 -10d	2-10d	2-10dx1½	245	295	1835	1975	—	1400	1400	—
	2 -16d	2-16d	2-10dx1½	245	295	1835	2225	—	2415	1500	—
HB	4-10d	4-10d	4-10d	615	615	3000	2820	—	3835	2050	—
	4-16d	4-16d	4-10d	615	615	3335	3100	—	3835	2785	—

1. Uplift loads have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
2. Loads may not be increased for short-term loading.
3. Web stiffener required when more than 2 joist nails.

Solid Sawn Connectors

RR RIDGE RAFTER CONNECTOR

An interlock provides alignment control and correct nailing locations. For a rafter-to-face connector, flatten the top flange into the face plane. The RR may be used with any rafter sloped up to 30°.

MATERIAL: 18 gauge

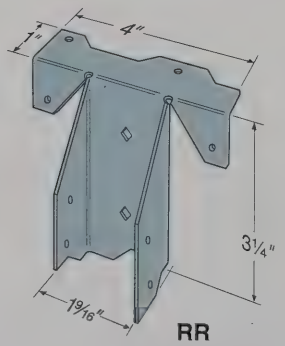
FINISH: Galvanized

INSTALLATION: Use all specified fasteners. See General Notes.

CODES: BOCA, ICBO, SBCCI NER-421; City of L.A. RR 25076.

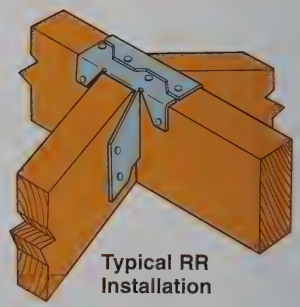
Model No.	Joist Size	Fasteners Header	Fasteners Joist	Down Avg Ult	Allowable Loads[1] Floor (100)	Allowable Loads[1] Roof (125)
RR	2x6	4-10dx1½	4-10dx1½	1250	365	415

1. Floor loads may be adjusted for other load durations according to the code, provided they do not exceed the table roof loads.



RR

U.S. Patent 4,498,801



Typical RR Installation

TOP FLANGE HANGERS W/WPU/WNP/WM/WMU/HW/HWU

The W, WPU, HWU and HW series purlin hangers offer the greatest design flexibility and versatility. WMs are designed for use on standard 8" grouted masonry block wall construction.

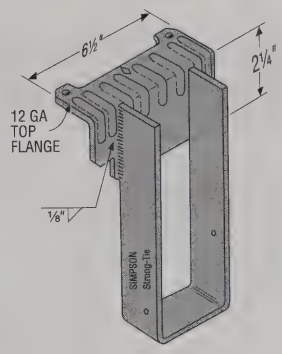
MATERIAL: See tables on pages 57 to 59; W—12 ga. top flange and stirrup; WM, WMU—12 ga. top flange and stirrup; WPU—7 ga. top flange, 12 ga. stirrup; HW—3 ga. top flange, 11 ga. stirrup; HWU—3 ga. top flange, 10 ga, stirrup.

FINISH: Simpson gray paint; hot-dipped galvanized available: specify HDG.

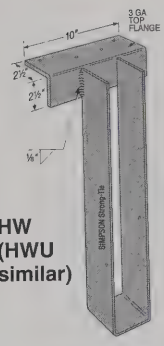
ALLOWABLE LOADS: For hanger heights exceeding the joist height, the allowable load is 0.50 of the table load.

INSTALLATION:
- Use all specified fasteners. WM—two 16d duplex nails must be installed into the top flange and embedded into the grouted wall. Verify that the header can take the required fasteners specified in the table.
- Hangers may be welded to steel headers with ⅛" for W, 3⁄16" for WNP, and ¼" for HW, by 1½" fillet welds located at each end of the top flange. Weld-on applications produce maximum allowable load listed. Uplift loads do not apply to this application.
- Hangers can support multi-ply carried members; the individual members must be secured together to work as a single unit before installation into the hanger.
- H dimensions are sized to account for normal joist shrinkage. W dimensions are for dressed timber widths.
- Embed **WM** into block with a minimum of one course above and one course below the top flange with one #5 vertical rebar minimum 24" long in each cell. **Minimum grout strength is 2000 psi.**
- **See Hanger Options, page 143 for hanger modifications and associated load reductions.**

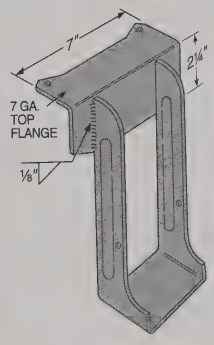
CODES: ICBO 5117; BOCA, ICBO, SBCCI NER-209. City of L.A. RR24947 and RR24949; Dade Co FL. 98-1021.01 (WM)



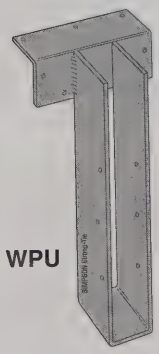
W



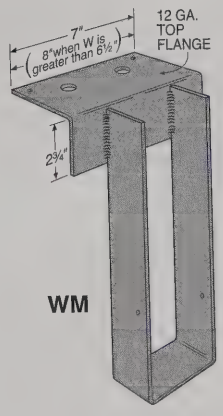
HW (HWU similar)



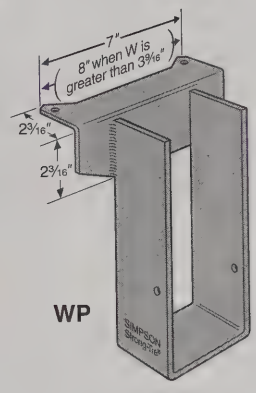
WNP412 and WNP414



WPU



WM



WP

Some model configurations may differ from those shown. Call factory for details.

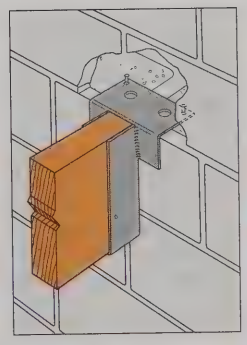
Model	Nailer	Top Flange Nailing	Allowable Loads DF/SP	SPF	LSL
W	2x	2-10dx1½	1600	1600	—
	3x	2-16dx2½	1765	1740	—
	2-2x	2-10d	1665	1665	—
	4x	2-10d	2200	2200	—
WNP	2x	2-10dx1½	2525	2500	3375
	3x	2-16dx2½	3000	2510	3375
	2-2x	2-10d	3255	3255	—
	4x	2-10d	3255	3255	—
HW	4x	4-16d	5285	—	—

NAILER TABLE

The table indicates the maximum allowable loads for W, WNP and HW hangers used on wood nailers. Nailers are wood members attached to the top of a steel I-beam, concrete or masonry wall. This table also applies to sloped-seat hangers.

W SERIES WITH VARIOUS HEADER APPLICATIONS

Model	Joist Width	Joist Depth	Fasteners Top	Face	Joist	Uplift (133 & 160)	Allowable Loads Header Type LVL	PSL	LSL	DF/SP	SPF	I-Joist	Masonry
W	1½ to 4	3½ to 30	2-10dx1½	—	2-10dx1½	—	1635	1740	—	1600	1415	—	—
	1½ to 4	3½ to 30	2-10d	—	2-10dx1½	—	2150	2020	—	2200	1435	—	—
	1½ to 4	3½ to 30	2-16d	—	2-10dx1½	—	2335	1950	2335	1765	1435	—	—
WM	1½ to 7½	3½ to 30	2-16d DPLX	—	2-10dx1½	—	—	—	—	—	—	—	4175
WMU	1½ to 7½	9 to 18	2-16d DPLX	4-¼x1" Masonry	6-10dx1½	660	—	—	—	—	—	—	4175
	1½ to 7½	18½ to 22½	2-16d DPLX	4-¼x1" Masonry	6-10dx1½	660	—	—	—	—	—	—	4175
	1½ to 7½	23 to 28	2-16d DPLX	4-¼x1" Masonry	6-10dx1½	625	—	—	—	—	—	—	4175
WP/WNP	1½ to 7½	3½ to 30	3-10dx1½	—	2-10dx1½	—	2865	3250	—	2500	2000	2030	—
	1½ to 7½	3½ to 30	3-10d	—	2-10dx1½	—	2525	3250	3650	3255	2525	—	—
	1½ to 7½	3½ to 30	3-16d	—	2-10dx1½	—	3635	3320	3650	3255	2600	—	—
WPU	1¾ to 5½	7¼ to 18	3-16d	4-16d	6-10dx1½	775	4700	4880	3650	4165	4165	—	—
	1¾ to 5½	18½ to 22½	3-16d	4-16d	6-10dx1½	485	4700	4880	3650	4165	4165	—	—
	1¾ to 5½	23 to 28	3-16d	4-16d	6-10dx1½	315	4700	4880	3650	4165	4165	—	—
HW	1½ to 7½	3½ to 32	4-10d	—	2-10dx1½	—	3100	4000	—	5285	3100	—	—
	1½ to 7½	3½ to 32	4-16d	—	2-10dx1½	—	5100	4000	4500	5285	3665	—	—
HWU	1¾ to 3⅜6	9 to 18	4-16d	4-16d	6-10dx1½	810	6335	5500	5535	6335	5415	—	—
	1¾ to 3⅜6	18½ to 22½	4-16d	4-16d	6-10dx1½	765	6335	5500	5535	6335	5415	—	—
	1¾ to 3⅜6	23 to 28	4-16d	4-16d	6-10dx1½	635	6335	5500	5535	6335	5415	—	—
	1¾ to 3⅜6	28½ to 32	4-16d	4-16d	8-10dx1½	1005	6335	5500	5535	6335	5415	—	—
	4¾ to 7⅛	9 to 18	4-16d	4-16d	6-10dx1½	810	6000	5500	5535	6000	5415	—	—
	4¾ to 7⅛	18½ to 22½	4-16d	4-16d	6-10dx1½	765	6000	5500	5535	6000	5415	—	—
	4¾ to 7⅛	23 to 28	4-16d	4-16d	6-10dx1½	635	6000	5500	5535	6000	5415	—	—
	4¾ to 7⅛	28½ to 32	4-16d	4-16d	8-10dx1½	1005	6000	5500	5535	6000	5415	—	—


Typical WM Installation

1. 10d roofer nails (.148 x 2⅛") may be substituted for 10d commons in W hangers; no load reduction.
2. 16d sinkers (9 ga x 3") may be used where 10d commons are called out with no load reduction.
3. WMU, WPU and HWU uplift loads have been increased 33% and 60% for wind or earthquake loading; no further increase allowed. Reduce by 33% and 60% for normal loading like cantilever construction.

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HF26N/F PANELIZED CONSTRUCTION HANGERS

The HF24N and HF26N hangers are designed for panels or components using jigs or similar devices for precision fabrication. Grip-groove feature provides positive lock into the 2x4 or 2x6 without nailing. F series panel hangers are engineered components for panelized construction only.

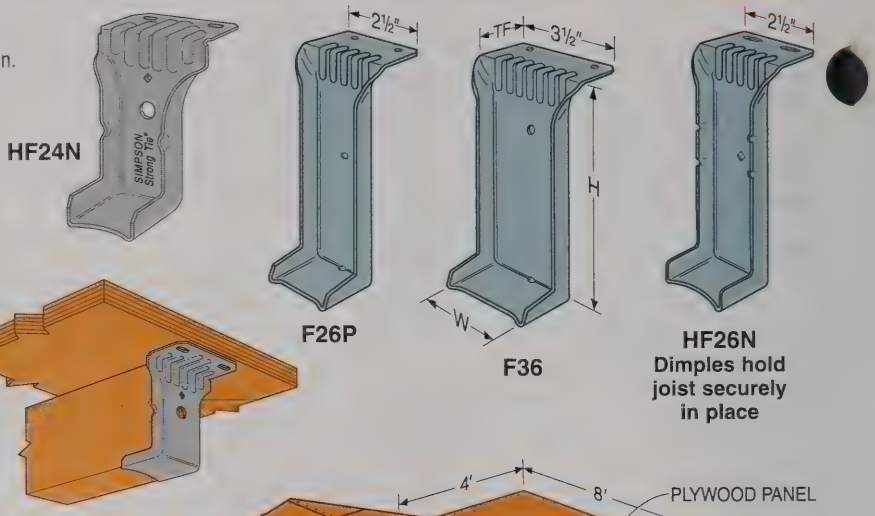
MATERIAL: 18 gauge

FINISH: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.

- In panelized construction, it is acceptable to nail through the sheathing into the hanger's top flange using one 10d x 2⅛" nail placed in the middle third of the top flange, no closer than ¼" from the back edge of the hanger.
- On the F-series hanger, the seat nail is non-structural and does not contribute to the load.

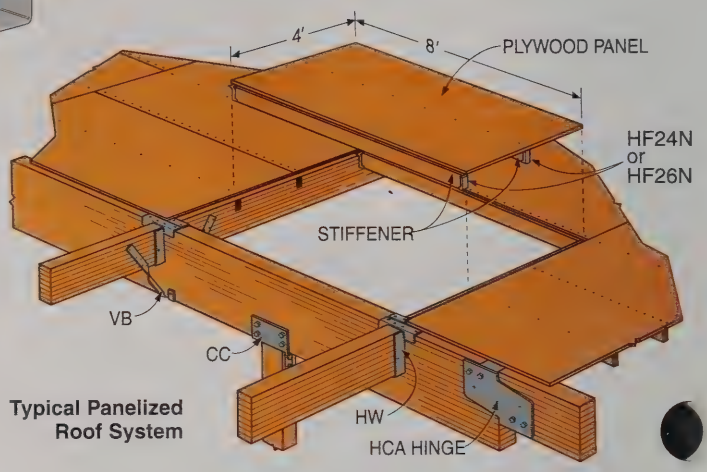
CODES: BOCA, ICBO, SBCCI NER-421; ICBO 1211; City of LA RR 25076.



Typical HF24N Installation

Model No.	Joist Size	Dimensions			Fasteners	Down Avg Ult	Allowable Roof Loads (125)
		W	H	TF	Header		
HF24N	2x4	1 9/16	3 3/8	1 1/4	2-10dx2 1/8	1838	575
F26P	2x6	1 21/32	5 3/8	1 3/16	2-10d	1767	585
HF26N	2x6	1 9/16	5 3/8	1 1/4	2-10dx2 1/8	1998	660
F34	3x4	2 5/8	3 15/32	1 3/8	2-10d	1967	650
F34N	3x4	2 5/8	3 15/32	1 7/16	2-10d	1967	650
F36	3x6	2 5/8	5 3/8	1 3/8	2-10d	2367	685
F36N	3x6	2 5/8	5 3/8	1 3/8	2-10d	2367	685
F24-2	(2)2x4	3 1/4	3 15/32	1 3/8	2-10d	2416	735
F26-2	(2)2x6	3 1/4	5 3/8	1 3/16	2-10d	2650	800
F44	4x4	3 5/16	3 7/16	1 1/2	2-10d	2740	880
F46	4x6	3 5/16	5 3/8	1 7/16	2-10d	2964	785

F hangers are only for panelized roof construction



Typical Panelized Roof System

PF POST FRAME HANGERS

PFD and PFA post frame hangers have double shear nailing to speed installation. Diamond holes allow easy hanger alignment and attachment.

MATERIAL: 20 gauge

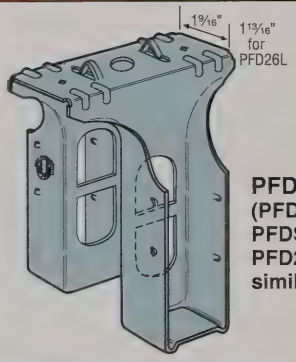
FINISH: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.

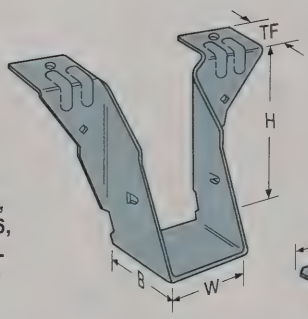
- Diamond holes on PFD allow optional top flange nailing.
- Double shear nailing distributes the load through two points on each nail for greater strength.

OPTIONS: These hangers cannot be modified.

CODES: BOCA, ICBO, SBCCI NER-421.

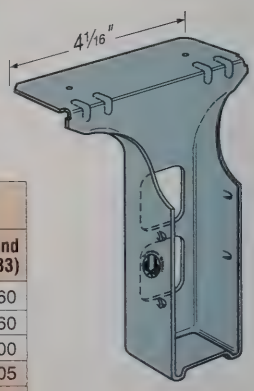


PFD26
(PFD24, PFDS26, PFD26L similar)



PF24
(PF26 similar)

U.S. Patent 4,480,941, Canada Patent 1,193,418



PF26A
(PF24A similar)

U.S. Patents 4,480,941, 5,104,252 and Canada Patent 1,193,418

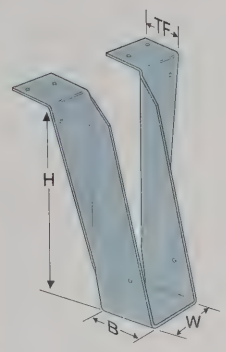
Model No.	Dimensions			Fasteners		Avg Ult	Doug-Fir-Larch & Southern Pine Allowable Loads[1]						Spruce-Pine-Fir Allowable Loads[1]					
	H	B	TF	Carrying Member	Carried Member		Uplift[2] (133)	Uplift[2] (160)	Floor (100)	Snow (115)	Roof (125)	Wind (133)	Uplift[2] (133)	Uplift[2] (160)	Floor (100)	Snow (115)	Roof (125)	Wind (133)
PF24	3 3/8	1½	1 1/16	2-10d	2-10d	2936	260	310	955	955	955	955	190	230	650	660	660	660
PF24A	3½	1¼	1½	2-10d	2-10d	3067	235	280	840	865	885	895	190	230	650	660	660	660
PFD24	3½	1¼	1 9/16	2 PRONGS	2-10d	4733	235	280	840	865	885	895	190	230	650	675	690	700
PF26	5 3/8	1½	1 1/16	2-10d	2-10d	2936	260	310	955	955	955	955	380	455	805	850	880	905
PFD26L	5 3/8	1½	1 13/16	2-10d	2-10d	2936	260	310	955	955	955	955	380	455	805	850	880	905
PF26A	5½	1¼	1½	2-10d	4-10d	3633	520	620	970	1020	1050	1075	420	505	765	770	770	770
PFD26	5½	1¼	1 9/16	2 PRONGS	4-10d	4667	470	560	1015	1070	1105	1130	380	455	805	850	880	905
PFDS26	5½	1¼	3¼	4-10d	4-10d	4667	520	620	970	1020	1050	1075	420	505	765	805	835	855

1. To assure the table loads, the carried member's nails must be common nails and driven at an angle through the carried member into the carrying member.
2. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.

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Top Flange Hangers—Solid Sawn Lumber (DF/SP)

Joist or Purlin Size	Model No.	Ga	Dimensions				Fasteners		Down Avg Ult	Allowable Loads					Installed Cost Index (ICI)
			W	H	B	TF	Header	Joist		Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	
SAWN LUMBER SIZES															
2x4	HU24TF	12	1 9/16	3 7/16	2 1/4	2 1/2	6-16d	2-10dx1 1/2	6833	245	295	2090	2100	2100	Lowest
DBL 2x4	HU24-2TF	12	3 1/8	3 7/16	2 1/2	2 1/2	8-16d	2-10d	8533	310	375	2600	2600	2600	Lowest
2x6	JB26	18	1 9/16	5 3/8	1 1/2	1 5/16	4-10d	2 PRONG	3297	—	—	1040	1040	1040	Lowest
	LB26	14	1 9/16	5 3/8	1 1/2	1 1/2	4-16d	2-10dx1 1/2	4177	240	290	1380	1380	1380	+ 117 %
	HU26TF	12	1 9/16	5 3/8	2 1/4	2 1/2	10-16d	4-10dx1 1/2	7500	490	590	2275	2330	2335	+ 568 %
	W26	12	1 9/16	5 3/8	2 1/2	2 1/2	2-10d	2-10dx1 1/2	7883	—	—	2200	2200	2200	+ 890 %
	WM26	12	1 9/16	5 3/8	4 1/2	3 3/4	2-16d DPLX	2-10dx1 1/2	15650	—	—	2540	2565	2590	*
DBL 2x6	HUS26-2TF	14	3 1/8	5 3/8	2	1 3/4	6-16d	4-16d	10400	1080	1235	2820	3000	3000	Lowest
	WNP26-2	12	3 1/8	5 3/8	2 1/2	2 3/16	2-10d	2-10d	11233	—	—	3255	3255	3255	+ 33 %
	HU26-2TF	12	3 1/8	5 3/8	2 1/2	2 1/2	10-16d	4-10d	13200	625	750	3725	3900	3900	+ 87 %
	WM26-2	12	3 1/8	5 3/8	2 1/2	3 3/4	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
2x8	JB28	18	1 9/16	7 1/4	1 1/2	1 5/16	4-10d	2 PRONG	3300	—	—	1050	1050	1050	Lowest
	LB28	14	1 9/16	7 1/4	1 1/2	1 1/2	4-16d	2-10d×1 1/2	3885	240	290	1270	1270	1270	+ 98 %
	HU28TF	12	1 9/16	7 1/8	2 1/4	2 1/2	10-16d	4-10d×1 1/2	7500	490	590	2335	2335	2335	+ 563 %
	W28	12	1 9/16	7 1/8	2 1/2	2 1/2	2-10d	2-10d×1 1/2	7883	—	—	2200	2200	2200	+ 570 %
	WM28	12	1 9/16	7 1/8	4 1/2	3 3/4	2-16d DPLX	2-10d×1 1/2	15650	—	—	2540	2565	2590	*
DBL 2x8	HUS28-2TF	14	3 1/8	7 1/4	2	1 7/8	8-16d	6-16d	13200	1550	1550	3455	3720	3895	Lowest
	WNP28-2	12	3 1/8	7 1/8	2 1/2	2 3/16	2-10d	2-10d	11233	—	—	3255	3255	3255	+ 16 %
	HU28-2TF	12	3 1/8	7 1/8	2 1/2	2 1/2	12-16d	4-10d	13200	625	750	3900	3900	3900	+ 75 %
	WM28-2	12	3 1/8	7 1/8	2 1/2	3 3/4	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
2x10	JB210	18	1 9/16	9 1/4	2	1 5/16	4-16d	2 PRONG	4307	—	—	1255	1255	1255	Lowest
	LB210	14	1 9/16	9 1/4	2	1 1/2	4-16d	2-10d×1 1/2	4833	240	290	1550	1550	1550	+ 35 %
	HU210TF	12	1 9/16	9 1/8	2 1/4	2 1/2	12-16d	4-10d×1 1/2	7500	490	590	2335	2335	2335	+ 359 %
	W210	12	1 9/16	9 1/8	2 1/2	2 1/2	2-10d	2-10d×1 1/2	7883	—	—	2200	2200	2200	+ 360 %
	WM210	12	1 9/16	9 1/8	4 1/2	3 3/4	2-16d DPLX	2-10d×1 1/2	15650	—	—	2540	2565	2590	*
DBL 2x10	HUS210-2TF	14	3 1/8	9 1/4	2	1 1/2	10-16d	8-16d	17483	2160	2590	3585	3925	4155	Lowest
	WNP210-2	12	3 1/8	9 1/8	2 1/2	2 3/16	2-10d	2-10d	11233	—	—	3255	3255	3255	+ 9 %
	HU210-2TF	12	3 1/8	9 1/8	2 1/2	2 1/2	14-16d	6-10d	12830	935	1125	4170	4170	4170	+ 67 %
	WM210-2	12	3 1/8	9 1/8	2 1/2	3 3/4	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
TPL2x10	HU210-3TF	12	4 1/16	9 1/8	2 1/2	2 1/2	14-16d	6-16d	14500	1105	1325	4150	4150	4150	Lowest
2x12	JB212	18	1 9/16	11 1/8	2	1 5/16	6-16d	2 PRONG	5115	—	—	1540	1540	1540	Lowest
	LB212	14	1 9/16	11 1/8	2	1 1/2	4-16d	2-10d×1 1/2	5047	240	290	1580	1580	1580	+ 27 %
	W212	12	1 9/16	11	2 1/2	2 1/2	2-10d	2-10d×1 1/2	7883	—	—	2200	2200	2200	+ 317 %
	HU212TF	12	1 9/16	11	2 1/4	2 1/2	14-16d	6-10d×1 1/2	7500	735	885	2335	2335	2335	+ 339 %
	WM212	12	1 9/16	11	4 1/2	3 3/4	2-16d DPLX	2-10d×1 1/2	15650	—	—	2540	2565	2590	*
DBL 2x12	HUS212-2TF	14	3 1/8	11 1/8	2	2 1/4	10-16d	8-16d	17483	2000	2000	4435	4535	4605	Lowest
	WNP212-2	12	3 1/8	11	2 1/2	2 3/16	2-10d	2-10d	11233	—	—	3255	3255	3255	+ 12 %
	HU212-2TF	12	3 1/8	11	2 1/2	2 1/2	16-16d	6-10d	13667	935	1125	4335	4335	4335	+ 48 %
	WM212-2	12	3 1/8	11	2 1/2	3 3/4	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
TPL2x12	HU212-3TF	12	4 1/16	11	2 1/2	2 1/2	16-16d	6-16d	18000	1105	1325	4550	4885	5105	Lowest
2x14	LB214	14	1 9/16	13 1/8	2	1 1/2	4-16d	2-10d×1 1/2	4870	240	290	1600	1600	1600	Lowest
	JB214	18	1 9/16	13 1/8	2	1 1/4	6-16d	2-10d×1 1/2	4940	235	235	1505	1505	1505	+ 117 %
	W214	12	1 9/16	13	2 1/2	2 1/2	2-10d	2-10d×1 1/2	7883	—	—	2200	2200	2200	+ 188 %
	HU214TF	12	1 9/16	13	2 1/4	2 1/2	16-16d	6-10d×1 1/2	9750	735	885	2660	2745	2800	+ 189 %
	WM214	12	1 9/16	13	4 1/2	3 3/4	2-16d DPLX	2-10d×1 1/2	15650	—	—	2540	2565	2590	*
DBL 2x14	HUS214-2TF	14	3 1/8	13 1/8	2	2 1/4	12-16d	8-16d	18267	2160	2590	4435	4535	4605	Lowest
	WNP214-2	12	3 1/8	13	2 1/2	2 3/16	2-10d	2-10d	11233	—	—	3255	3255	3255	+ 2 %
	HU214-2TF	12	3 1/8	13	2 1/2	2 1/2	18-16d	8-10d	13667	1250	1500	4335	4335	4335	+ 33 %
	WM214-2	12	3 1/8	13	2 1/2	3 3/4	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
TPL 2x14	HU214-3TF	12	4 1/16	13	2 1/2	2 1/2	18-16d	8-16d	18000	1470	1765	4835	5050	5050	Lowest
2x16	LB216	14	1 9/16	15 1/8	2	1 1/2	4-16d	2-10d×1 1/2	4863	240	290	1525	1525	1525	Lowest
	W216	12	1 9/16	15	2 1/2	2 1/2	2-10d	2-10d×1 1/2	7883	—	—	2200	2200	2200	+ 122 %
	HU216TF	12	1 9/16	15	2 1/4	2 1/2	18-16d	8-10d×1 1/2	9750	980	1180	2845	2955	3030	+ 199 %
	WM216	12	1 9/16	15	4 1/2	3 3/4	2-16d DPLX	2-10d×1 1/2	15650	—	—	2540	2565	2585	*



1. 10d roofer nails (9 gauge x 2⅛") may be substituted for 10ds in W hangers with no load reduction. N20A, N20AN and N54A fasteners are supplied with hangers.
2. 16d sinkers (9 gauge x 3¼") may be used where 10d commons are called out with no load reduction.
3. Roof loads are 125% of floor loads unless limited by other criteria.
4. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.

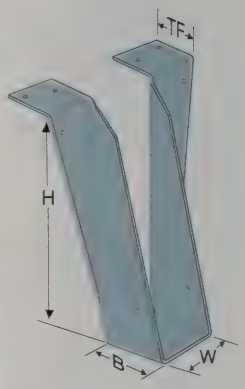
* Hangers do not have an Installed Cost Index as they are used for specialty applications.

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Top Flange Hangers—Solid Sawn Lumber (DF/SP)

SIMPSON Strong-Tie CONNECTORS

Joist or Purlin Size	Model No.	Ga	Dimensions				Fasteners		Down Avg Ult	Allowable Loads					Installed Cost Index (ICI)
			W	H	B	TF	Header	Joist		Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	
SAWN LUMBER SIZES															
DBL 2x16	WNP216-2	12	3⅛	15	2½	2⅜	2-10d	2-10d	11233	—	—	3255	3255	3255	Lowest
	HU216-2TF	12	3⅛	15	2½	2½	20-16d	8-10d	13667	1250	1500	4335	4335	4335	+ 34 %
	WM216-2	12	3⅛	15	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
TPL 2x16	HU216-3TF	12	4¹⁄₁₆	15	2½	2½	20-16d	8-16d	18000	1470	1765	5050	5050	5050	Lowest
3x4	HU34TF	12	2⅜	3⅞	2½	2½	8-16d	2-10d×1½	8533	245	295	2600	2600	2600	*
3x6	W36	12	2⅜	5⅜	2	2½	2-10d	2-10d×1½	7883	—	—	2200	2200	2200	*
	WM36	12	2⅜	5⅜	3	3¾	2-16d DPLX	2-10d×1½	15650	—	—	4100	4130	4150	*
	HU36TF	12	2⅜	5⅜	2½	2½	10-16d	4-10d×1½	13200	490	590	3725	3900	3900	*
3x8	W38	12	2⅜	7⅛	2	2½	2-10d	2-10d×1½	7883	—	—	2200	2200	2200	*
	WM38	12	2⅜	7⅛	3	3¾	2-16d DPLX	2-10d×1½	15650	—	—	4100	4130	4150	*
	HU38TF	12	2⅜	7⅛	2½	2½	12-16d	4-10d×1½	13200	490	590	3900	3900	3900	*
	B38	12	2⅜	7⅛	2	2½	4-16d	2-10d×1½	7400	245	295	2415	2415	2415	*
3x10	W310	12	2⅜	9⅛	2	2½	2-10d	2-10d×1½	7883	—	—	2200	2200	2200	*
	WM310	12	2⅜	9⅛	3	3¾	2-16d DPLX	2-10d×1½	15650	—	—	4100	4130	4150	*
	HU310TF	12	2⅜	9⅛	2½	2½	14-16d	6-10d×1½	12830	735	885	4170	4170	4170	*
	B310	12	2⅜	9⅛	2	2½	4-16d	2-10d×1½	7400	245	295	2415	2415	2415	*
3x12	WNP312	12	2⅜	11	2½	2⅜	2-10d	2-10d×1½	11233	—	—	3255	3255	3255	*
	WM312	12	2⅜	11	3	3¾	2-16d DPLX	2-10d×1½	15650	—	—	4100	4130	4150	*
	HU312TF	12	2⅜	11	2½	2½	16-16d	6-10d×1½	13667	735	885	4335	4335	4335	*
	B312	12	2⅜	11	2⅜	2½	4-16d	2-10d×1½	7400	245	295	2415	2415	2415	*
3x14	WNP314	12	2⅜	13	2½	2⅜	2-10d	2-10d×1½	11233	—	—	3255	3255	3255	*
	WM314	12	2⅜	13	3	3¾	2-16d DPLX	2-10d×1½	15650	—	—	4100	4130	4150	*
	HU314TF	12	2⅜	13	2½	2½	18-16d	8-10d×1½	13667	980	1180	4335	4335	4335	*
	B314	12	2⅜	13	3	2½	4-16d	2-10d×1½	7400	245	295	2415	2415	2415	*
3x16	WNP316	12	2⅜	15	2½	2⅜	2-10d	2-10d×1½	11233	—	—	3255	3255	3255	*
	WM316	12	2⅜	15	3	3¾	2-16d DPLX	2-10d×1½	15650	—	—	4100	4130	4150	*
	HU316TF	12	2⅜	15	2½	2½	20-16d	8-10d×1½	13667	980	1180	4335	4335	4335	*
	B316	12	2⅜	15	3	2½	4-16d	2-10d×1½	7400	245	295	2415	2415	2415	*
4x4	HU44TF	12	3⅜	3⅞	2½	2½	8-16d	2-10d	8533	310	375	2600	2600	2600	Lowest
4x6	HUS46TF	14	3⅜	5⅜	2	1½	6-16d	4-16d	10400	1080	1235	2700	2890	3000	Lowest
	W46	12	3⅜	5⅜	2½	2½	2-10d	2-10d	7883	—	—	2200	2200	2200	+ 12 %
	HU46TF	12	3⅜	5⅜	2½	2½	10-16d	4-10d	10833	625	750	3165	3165	3165	+ 28 %
	HW46	11	3⅜	5⅜	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	+ 83 %
	WM46	12	3⅜	5⅜	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
4x8	B48	12	3⅜	7⅛	2	2½	4-16d	2-10d	7400	310	375	2415	2415	2415	Lowest
	HUS48TF	14	3⅜	7¼	2	1¹⁄₁₆	8-16d	6-16d	13200	1550	1550	3225	3495	3670	+ 6 %
	W48	12	3⅜	7⅛	2½	2½	2-10d	2-10d	7883	—	—	2200	2200	2200	+ 23 %
	HU48TF	12	3⅜	7⅛	2½	2½	12-16d	4-10d	13335	625	750	3500	3500	3500	+ 55 %
	HW48	11	3⅜	7⅛	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	+ 84 %
	WM48	12	3⅜	7⅛	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
4x10	HUS410TF	14	3⅜	9¼	2	1¼	10-16d	8-16d	17483	2160	2590	3365	3710	3935	Lowest
	B410	12	3⅜	9⅛	2	2½	4-16d	2-10d	7400	310	375	2415	2415	2415	+ 12 %
	W410	12	3⅜	9⅛	2½	2½	2-10d	2-10d	7883	—	—	2200	2200	2200	+ 23 %
	HU410TF	12	3⅜	9⅛	2½	2½	14-16d	6-10d	14500	935	1125	4150	4150	4150	+ 54 %
	HW410	11	3⅜	9⅛	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	+ 89 %
	WM410	12	3⅜	9⅛	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
4x12	HUS412TF	14	3⅜	11⅛	2	2	10-16d	8-16d	17483	2000	2000	4420	4760	4990	Lowest
	B412	12	3⅜	11	2⅜	2½	6-16d	2-10d	10250	310	375	3165	3165	3165	+ 12 %
	WNP412	12	3⅜	11	2½	2⅜	2-10d	2-10d	11233	—	—	3255	3255	3255	+ 16 %
	HU412TF	12	3⅜	11	2½	2½	16-16d	6-10d	18000	935	1125	4550	4885	5105	+ 62 %
	HB412	12	3⅜	11	3	2½	10-N20AN	4-N20AN	13830	770	920	4330	4330	4330	+ 63 %
	HW412	11	3⅜	11	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	+ 89 %
	HHB412	7	3⅜	11	3	2½	4-N54A	2-N54A	12933	485	580	4185	4185	4185	+ 143 %
	WM412	12	3⅜	11	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*

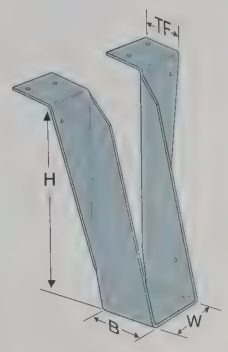


See footnotes on opposite page.

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Top Flange Hangers—Solid Sawn Lumber (SF/SP)

Joist or Purlin Size	Model No.	Ga	Dimensions				Fasteners		Down Avg Ult	Allowable Loads					Install Cost Index (ICI)
			W	H	B	TF	Header	Joist		Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	
SAWN LUMBER SIZES															
4x14	HUS414TF	14	3⁹⁄₁₆	13⅞	2	2	12-16d	8-16d	18267	2160	2160	4765	5100	5100	Lowest
	B414	12	3⁹⁄₁₆	13	2⅜	2½	6-16d	2-10d	10250	310	375	3165	3165	3165	+ 8 %
	WNP414	12	3⁹⁄₁₆	13	2½	2⅜	2-10d	2-10d	11233	—	—	3255	3255	3255	+ 13 %
	HB414	12	3⁹⁄₁₆	13	3	2½	10-N20AN	4-N20AN	13830	770	920	4330	4330	4330	+ 64 %
	HU414TF	12	3⁹⁄₁₆	13	2½	2½	18-16d	8-10d	18000	1250	1500	4830	5050	5050	+ 89 %
	HW414	11	3⁹⁄₁₆	13	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	+ 108 %
	HHB414	7	3⁹⁄₁₆	13	3	2½	6-N54A	4-N54A	15750	970	1165	5135	5135	5135	+ 150 %
	WM414	12	3⁹⁄₁₆	13	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
4x16	WNP416	12	3⁹⁄₁₆	15	2½	2⅜	2-10d	2-10d	11233	—	—	3255	3255	3255	Lowest
	B416	12	3⁹⁄₁₆	15	2⅜	2½	6-16d	2-10d	10250	310	375	3165	3165	3165	+ 23 %
	HB416	12	3⁹⁄₁₆	15	3	2½	10-N20AN	4-N20AN	13830	770	920	4330	4330	4330	+ 53 %
	HU416TF	12	3⁹⁄₁₆	15	2½	2½	20-16d	8-10d	18000	1250	1500	5050	5050	5050	+ 81 %
	HW416	11	3⁹⁄₁₆	15	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	+ 108 %
	HHB416	7	3⁹⁄₁₆	15	3	2½	6-N54A	4-N54A	15750	970	1165	5135	5135	5135	+ 109 %
	WM416	12	3⁹⁄₁₆	15	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
6x6	WNP66	12	5½	5⅜	2½	2⅝	3-10d	2-10d	11233	—	—	3255	3255	3255	*
	WM66	12	5½	5⅜	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
	HU66TF	12	5½	5⅜	2½	2½	10-16d	4-16d	10833	735	885	3165	3165	3165	*
	HW66	11	5½	5⅜	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
6x8	WNP68	12	5½	7⅛	2½	2⅝	3-10d	2-10d	11233	—	—	3255	3255	3255	*
	WM68	12	5½	7⅛	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
	HU68TF	12	5½	7⅛	2½	2½	12-16d	4-16d	13335	735	885	3500	3500	3500	*
	HHB68	7	5½	7⅛	3	2½	4-N54A	2-N54A	12933	485	580	4185	4185	4185	*
	HW68	11	5½	7⅛	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
6x10	WNP610	12	5½	9⅛	2½	2⅝	3-10d	2-10d	11233	—	—	3255	3255	3255	*
	WM610	12	5½	9⅛	2½	3¾	2-16d DPLX	2-10d	15650	—	—	4175	4175	4175	*
	B610	12	5½	9⅛	2⅜	2½	10-16d	2-10d	14375	310	375	4000	4000	4000	*
	HHB610	7	5½	9⅛	3	2½	4-N54A	2-N54A	12933	485	580	4185	4185	4185	*
	HU610TF	12	5½	9⅛	2½	2½	14-16d	6-16d	14500	1105	1325	4150	4150	4150	*
	HW610	11	5½	9⅛	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
	GLT6	7	5⁹⁄₁₆	7½ MIN	5	2½	10-N54A	6-N54A	21417	1455	1745	7000	7000	7000	*
	HGLT6	7	5⁹⁄₁₆	7½ MIN	6	2½	18-N54A	6-N54A	39083	1455	1745	12750	12750	12750	*
6x12	HW612	11	5½	11	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
	B612	12	5½	11	2⅜	2½	10-16d	2-10d	14375	310	375	4000	4000	4000	*
	HHB612	7	5½	11	3	2½	10-N54A	6-N54A	19100	1455	1745	6235	6235	6235	*
	HU612TF	12	5½	11	2½	2½	16-16d	6-16d	18000	1105	1325	4550	4885	5105	*
	GLT6	7	5⁹⁄₁₆	7½ MIN	5	2½	10-N54A	6-N54A	21417	1455	1745	7000	7000	7000	*
	HGLT6	7	5⁹⁄₁₆	7½ MIN	6	2½	18-N54A	6-N54A	39083	1455	1745	12750	12750	12750	*
6x14	HW614	11	5½	13	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
	B614	12	5½	13	2⅜	2½	10-16d	2-10d	14375	310	375	4000	4000	4000	*
	HHB614	7	5½	13	3	2½	10-N54A	6-N54A	19100	1455	1745	6235	6235	6235	*
	HU614TF	12	5½	13	2½	2½	18-16d	8-16d	19500	1470	1765	4830	5200	5450	*
	GLT6	7	5⁹⁄₁₆	7½ MIN	5	2½	10-N54A	6-N54A	21417	1455	1745	7000	7000	7000	*
	HGLT6	7	5⁹⁄₁₆	7½ MIN	6	2½	18-N54A	6-N54A	39083	1455	1745	12750	12750	12750	*
6x16	HW616	11	5½	15	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
	B616	12	5½	15	2⅜	2½	10-16d	2-10d	14375	310	375	4000	4000	4000	*
	HHB616	7	5½	15	3	2½	10-N54A	6-N54A	19100	1455	1745	6235	6235	6235	*
	HU616TF	12	5½	15	2½	2½	20-16d	8-16d	19500	1470	1765	5105	5520	5795	*
	GLT6	7	5⁹⁄₁₆	7½ MIN	5	2½	10-N54A	6-N54A	21417	1455	1745	7000	7000	7000	*
	HGLT6	7	5⁹⁄₁₆	7½ MIN	6	2½	18-N54A	6-N54A	39083	1455	1745	12750	12750	12750	*
8x6	HW86	7	7½	5⅜	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
8x8	HW88	7	7½	7⅛	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
8x10	HW810	7	7½	9⅛	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
8x12	HW812	7	7½	11	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
	HHB812	7	7½	11	3	2½	10-N54A	6-N54A	19100	1455	1745	6235	6235	6235	*
8x14	HW814	7	7½	13	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
	HHB814	7	7½	13	3	2½	10-N54A	6-N54A	19100	1455	1745	6235	6235	6235	*
8x16	HW816	7	7½	11	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285	*
	HHB816	7	7½	11	3	2½	10-N54A	6-N54A	19100	1455	1745	6235	6235	6235	*



1. 10d roofer nails (9 gauge x 2⅛") may be substituted for 10ds in W hangers with no load reduction. N20A, N20AN and N54A fasteners are supplied with hangers.
2. 16d sinkers (9 gauge x 3¼") may be used where 10d commons are called out with no load reduction.
3. Roof loads are 125% of floor loads unless limited by other criteria.
4. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.

* Hangers do not have an Installed Cost Index as they are used for specialty applications.

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THA/THAC ADJUSTABLE TRUSS HANGERS

The THA426 and THA426-2 provide connectors for 24" floor trusses.

The THA series' extra long straps allow full code nailing and can be field-formed to give top flange hanger convenience.

MATERIAL: See table.

FINISH: Galvanized

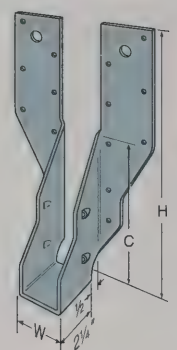
INSTALLATION: • Use all specified fasteners. See General Notes.

- With single 2x carrying members, use 10dx1½" nails into the carrying member, and 10d or 16d commons into the carried member, and use 0.81 of the table value for 18 gauge, and 0.68 of the table value for 16 gauge.
- **Two different installation methods may be used:**

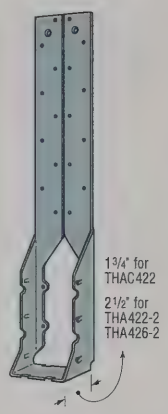
  Maximum nailing–Install all face nails according to the table. Nails used for the joist attachment must be driven at an angle so that they penetrate through the corner of the joist into the the header.

  Minimum nailing–For the THA29, the minimum nailing schedule requires the use of joist double shear nailing as detailed above, and that the strap be field-formed over the header a minimum of 2½". A minimum of four top and four face nails must be used.
- For all models except the THA29, the minimum nailing schedule may be followed where double shear nailing is not possible, provided the strap is field-formed over the top of the header a minimum of 1½" for the THA213 and THA413, and 2" for all others, and a minimum of four top and two face nails are used. The joist double shear nailing tabs are easily straightened so that the nails can be driven straight into the joist.

CODES: BOCA, ICBO, SBCCI NER-209; City of L.A. RR 24949; Dade Co., FL 98-0724.06.



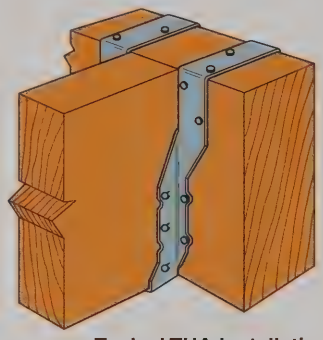
THA29



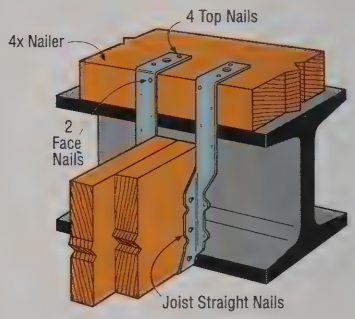
THAC422



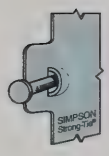
THA



Typical THA Installation

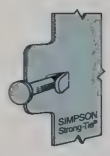


Typical THA Minimum Nailing Configuration on a 4x Nailer (except THA29)

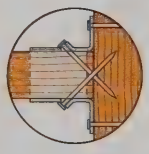


Dome Double Shear Nailing prevents tabs breaking off (available on some models)

U.S. Patent 5,603,580



Double Shear Nailing Side View



Double Shear Nailing Top View

U.S. Patent 4,480,941

Canada Patent 1,193,418

Minimum Carried Member	Model No.	Ga	Dimensions			Fasteners[1]				Down Avg Ult	Doug-Fir-Larch/Southern Pine Allowable Loads				Spruce-Pine-Fir Allowable Loads			
			W	H	C	Carrying Member		Carried Member			Uplift[2] (133 & 160)	Floor (100)	Snow (115)	Roof (125)	Uplift[2] (133 & 160)	Floor (100)	Snow (115)	Roof (125)
						Top	Face	Straight	Slant									
MINIMUM NAILING—TOP FLANGE																		
2x4	THA29	18	1⅝	9 1⁄16	5⅛	4-10d	—	4-10d		8167	750	2260	2310	2350	750	1740	1785	1815
2x6	THA213	18	1⅝	13 5⁄16	5½	4-10d	2-10d	4-10dx1½	—	5343	—	1615	1615	1615	—	1280	1280	1280
2x6	THA218	18	1⅝	17 3⁄16	5½	4-10d	2-10d	4-10dx1½	—	5343	—	1615	1615	1615	—	1280	1280	1280
(2)2x10	THA218-2	16	3⅛	17 1⁄16	8	4-16d	2-16d	6-16dx2½	—	5085	—	1635	1635	1635	—	1465	1465	1465
(2)2x10	THA222-2	16	3⅛	22 3⁄16	8	4-16d	2-16d	6-16dx2½	—	5085	—	1635	1635	1635	—	1465	1465	1465
4x6	THA413	18	3⅝	13 5⁄16	4½	4-10d	2-10d	4-10d	—	5343	—	1615	1615	1615	—	1280	1280	1280
4x10	THA418	16	3⅝	17½	7⅛	4-16d	2-16d	6-16d	—	5085	—	1635	1635	1635	—	1465	1465	1465
4x10	THAC418	16	3⅝	17½	7⅛	4-16d	2-16d	6-16d	—	5085	—	1635	1635	1635	—	1465	1465	1465
4x10	THA422	16	3⅝	22	7⅛	4-16d	2-16d	6-16d	—	5085	—	1635	1635	1635	—	1465	1465	1465
MAXIMUM NAILING—ALL NAIL HOLES FILLED																		
2x4	THA29	18	1⅝	9 1⁄16	5⅛	—	16-10d	—	4-10d	8250	750	2125	2310	2350	750	1740	1785	1815
2x6	THA213	18	1⅝	13 5⁄16	5½	—	14-10d	—	4-10d	7983	930	1795	1840	1870	780	1385	1425	1450
2x6	THA218	18	1⅝	17 3⁄16	5½	—	18-10d	—	4-10d	9120	930	1795	1840	1870	780	1385	1425	1450
(2)2x10	THA218-2	16	3⅛	17 1⁄16	8	—	16-16d	—	6-16d	11500	1550	2830	3050	3050	1355	2385	2740	2820
(2)2x10	THA222-2	16	3⅛	22 3⁄16	8	—	22-16d	—	6-16d	13067	1550	3510	3595	3650	1355	2705	2775	2820
4x6	THA413	18	3⅝	13 5⁄16	4½	—	14-10d	—	4-10d	7983	930	1940	2235	2400	780	1660	1910	2075
4x10	THA418	16	3⅝	17½	7⅛	—	16-16d	—	6-16d	11500	1550	2830	3050	3050	1355	2385	2740	2980
4x10	THAC418	16	3⅝	17½	7⅛	—	16-16d	—	6-16d	11500	1550	2830	3050	3050	1355	2385	2740	2980
4x10	THA422	16	3⅝	22	7⅛	—	22-16d	—	6-16d	13067	1550	3630	4090	4145	1355	3075	3145	3195

1. 16d sinkers may be used to replace 16d commons at 0.85 of table load.
2. Uplift has been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load conditions as required by code.
3. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for load durations according to the code, provided they do not exceed those in the roof column.
4. 160% uplift load for THA422-2 and THAC422-2 is 2060 lbs.

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Standardized 45° skewed hangers, angled slots direct nails to allow proper installation.

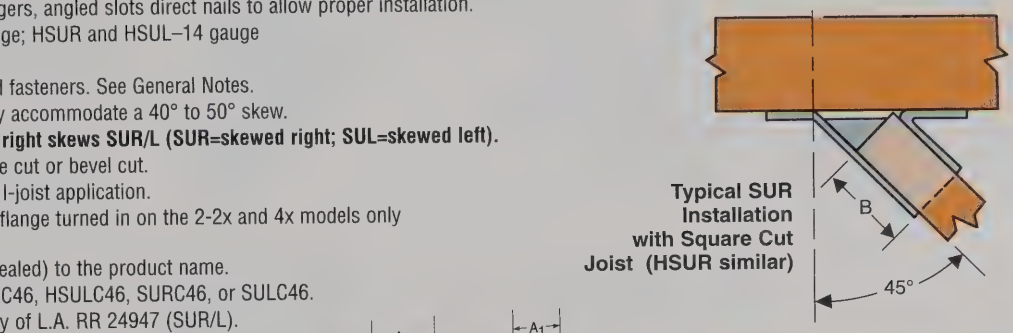
MATERIAL: SUR and SUL–16 gauge; HSUR and HSUL–14 gauge

FINISH: Galvanized

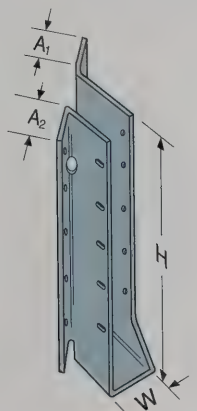
INSTALLATION: • Use all specified fasteners. See General Notes.
- These hangers will normally accommodate a 40° to 50° skew.
- **Illustration shows left and right skews SUR/L (SUR=skewed right; SUL=skewed left).**
- The joist end may be square cut or bevel cut.
- Web stiffeners required for I-joist application.

OPTIONS: • Available with the A_2 flange turned in on the 2-2x and 4x models only (see illustration).
- To order, add "C" (for concealed) to the product name.
- For example, specify HSURC46, HSULC46, SURC46, or SULC46.

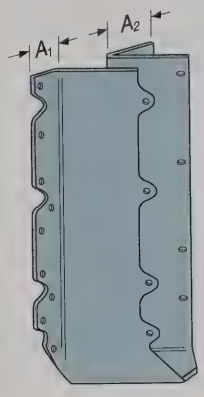
CODES: ICBO 5117 and 5357; City of L.A. RR 24947 (SUR/L).



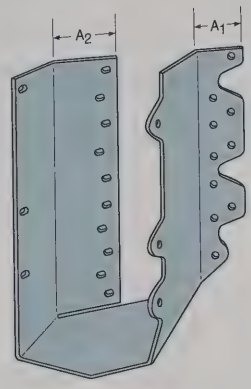
Typical SUR Installation with Square Cut Joist (HSUR similar)



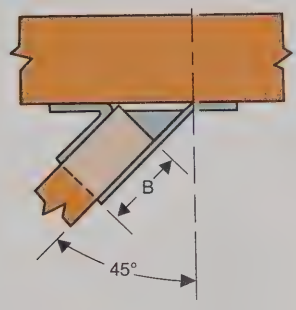
SUL



HSUR



HSULC
Available for 2-2x and 4x models only



Typical SUL Installation with Square Cut Joist (HSUL similar)

Joist Size	Model No.	Dimensions					Fasteners		Allowable Loads								
											DF/SP Species Header			SPF Species Header		
												Roof			Roof	
		W	H	B	A_1	A_2	Face	Joist	Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Const (125)	Floor (100)	Snow (115)	Const (125)
2x4	SUR/L24	1 9/16	3½	2	1⅛	1¼	4-16d	4-10dx1½	450	450	530	610	665	460	530	575
2x6, 8	SUR/L26	1 9/16	5	2	1⅛	1 5/16	6-16d	6-10dx1½	720	765	800	960	1000	690	795	860
1½x 9¼- 12	SUR/L210	1 9/16	8⅛	2	1⅛	1 5/16	10-16d	10-10dx1½	1200	1250	1330	1530	1660	1150	1320	1440
1½x10- 16	SUR/L214	1 9/16	10	2	1⅛	1 5/16	12-16d	12-10dx1½	1440	1730	1595	1835	1995	1380	1585	1725
2½x 9¼- 14	SUR/L310	2 5/16	8 15/16	2⅝	1½	2	14-16d	6-10dx1½	720	765	1860	2140	2330	1610	1785	1785
2½x14- 20	SUR/L314	2 5/16	13	2⅝	1½	2	18-16d	8-10dx1½	960	1150	2395	2500	2500	1795	1795	1795
(2) 2x6, 8	SUR/L26-2	3⅛	4 15/16	2 7/16	1¼	2 3/16	8-16d	4-16dx2½	710	815	1065	1225	1330	920	1005	1005
(2) 2x6, 8	HSUR/L26-2	3⅛	4 15/16	2 7/16	1¼	2 3/16	12-16d	4-16dx2½	715	815	1610	1850	2000	1390	1600	1740
2-2x9¼ - 14	SUR/L210-2	3⅛	8 1/16	2 7/16	1¼	2 3/16	14-16d	6-16dx2½	1065	1275	1860	2140	2330	1610	1850	2010
2-2x9¼ - 14	HSUR/L210-2	3⅛	8 1/16	2 7/16	1¼	2 3/16	20-16d	6-16dx2½	1070	1285	2680	3080	3350	2320	2670	2900
2-2x14- 20	SUR/L214-2	3⅛	12 1/16	2 7/16	1¼	2 3/16	18-16d	8-16dx2½	1430	1700	2395	2500	2500	1795	1795	1795
2-2x14- 20	HSUR/L214-2	3⅛	12 1/16	2 7/16	1¼	2 3/16	26-16d	8-16dx2½	1430	1715	3485	4005	4355	3015	3470	3770
4x6, 8	SUR/L46	3 9/16	4¾	2 7/16	1	2 3/16	8-16d	4-16d	710	815	1065	1225	1330	920	1005	1005
4x6, 8	HSUR/L46	3 9/16	4¾	2 7/16	1	2 3/16	12-16d	4-16d	715	815	1610	1850	2000	1390	1600	1740
3½x 9¼- 14	SUR/L410	3 9/16	8½	2 7/16	1	2 3/16	14-16d	6-16d	1065	1275	1860	2140	2330	1610	1850	2010
3½x 9¼- 14	HSUR/L410	3 9/16	8½	2 7/16	1	2 3/16	20-16d	6-16d	1070	1285	2680	3080	3350	2320	2670	2900
3½x12¼- 20	SUR/L414	3 9/16	12½	2 7/16	1	2 3/16	18-16d	8-16d	1420	1700	2395	2500	2500	1795	1795	1795
3½x12¼- 20	HSUR/L414	3 9/16	12½	2 7/16	1	2 3/16	26-16d	8-16d	1430	1715	3485	4005	4355	3015	3470	3770

1. Uplift loads have been increased by 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load conditions as required by code.

2. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for other load durations according to the code, provided they do not exceed those in the roof column.

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LSU/LSSU LIGHT SLOPEABLE/SKEWABLE U HANGERS

SIMPSON Strong-Tie CONNECTORS

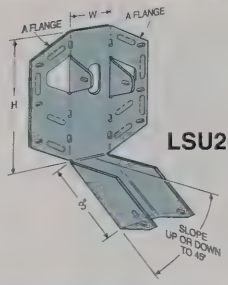
This series attach joists or rafters to headers, sloped up or down, and skewed left or right, up to 45°.

MATERIAL: LSSU210-2, LSSU410–16 ga; all others–18 ga

FINISH: Galvanized

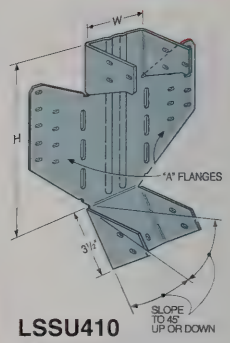
INSTALLATION: • Use all specified fasteners. See General Notes.
- Attach the sloped joist at both ends so that the horizontal force developed by the slope is fully supported by the supporting members.
- Web stiffeners required for I-joist applications.

CODES: BOCA, ICBO, SBCCI NER-209, NER-421, NER-432. City of L.A. RR 24949, RR 25074 and RR 25076.



LSU26

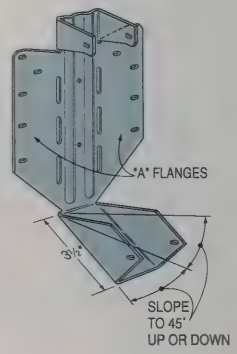
U.S. Patent 4,423,977 and Canada Patent 1,168,827



LSSU410 (LSSU210-2 similar)

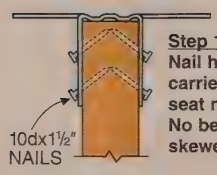
Joist Width	Model No.	Ga	Dimensions W	Dimensions H	Fasteners Face	Fasteners Joist	Allowable Loads Uplift[2] (133)	Uplift[2] (160)	DF/SP Species Header Floor (100)	DF/SP Species Header Roof Snow (115)	DF/SP Species Header Roof Const (125)	SPF Species Header Uplift[2] (133)	SPF Species Header Floor (100)	SPF Species Header Roof Snow (115)	SPF Species Header Roof Const (125)
Sloped Only Hangers															
1½	LSU26	18	1⁹⁄₁₆	4⅞	6-10d	5-10dx1½	485	535	665	765	800	415	575	660	690
1½	LSSU28	18	1⁹⁄₁₆	7⅞	10-10d	5-10dx1½	485	535	1110	1275	1390	415	960	1105	1200
1½	LSSU210	18	1⁹⁄₁₆	8½	10-10d	7-10dx1½	730	875	1110	1275	1390	625	960	1105	1200
2½	LSSUH310	16	2⁹⁄₁₆	8½	18-16d	12-10dx1½	1150	1150	2395	2565	2565	990	2070	2215	2215
3	LSSU210-2	16	3⅛	8½	18-16d	12-10dx1½	1150	1150	2395	2755	2990	990	2070	2380	2590
3½	LSSU410	16	3⁹⁄₁₆	8½	18-16d	12-10dx1½	1150	1150	2395	2755	2990	990	2070	2380	2590
Skewed Hangers or Sloped and Skewed															
1½	LSU26	18	1⁹⁄₁₆	4⅞	6-10d	5-10dx1½	485	535	665	765	800	415	575	660	690
1½	LSSU28	18	1⁹⁄₁₆	7⅞	9-10d	5-10dx1½	485	535	885	885	885	415	765	765	765
1½	LSSU210	18	1⁹⁄₁₆	8½	9-10d	7-10dx1½	730	785	995	1145	1205	625	860	995	1050
2½	LSSUH310	16	2⁹⁄₁₆	8½	14-16d	12-10dx1½	1150	1150	1600	1600	1600	990	1385	1385	1385
3	LSSU210-2	16	3⅛	8½	14-16d	12-10dx1½	1150	1150	1825	1865	1865	990	1580	1610	1610
3½	LSSU410	16	3⁹⁄₁₆												

1. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for load durations according to the code provided they do not exceed those in the roof columns.
2. Uplift loads include a 33% and 60% increase for earthquake or wind loading; no further increase is allowed.

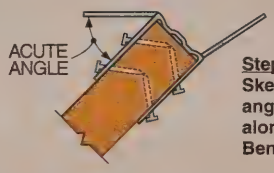


LSSU28

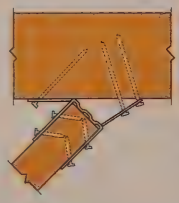
LSSU INSTALLATION SEQUENCE



Step 1
Nail hanger to slope-cut carried member, installing seat nail first.
No bevel necessary for skewed installation.



Step 2
Skew flange to form acute angle. Bend other flange back along centerline of slots.
Bend one time only.



Step 3
Attach hanger to the carrying member, acute angle side first.
Install nails at an angle.

HCP HIP CORNER PLATES

The HCP connects a rafter or joist to double top plates at a 45° angle.

MATERIAL: 18 gauge.

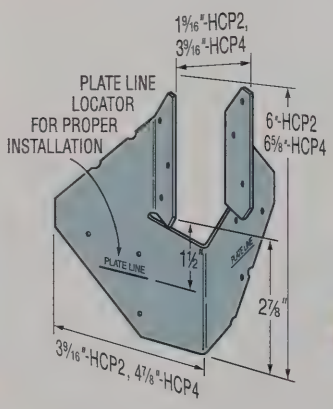
FINISH: HCP2–galvanized; HCP4–Z-MAX

INSTALLATION: • Use all specified fasteners. See General Notes.
- Attach HCP to double top plates; birdsmouth not required for table loads.
- Install rafter and complete nailing. Rafter may be sloped to 45°.

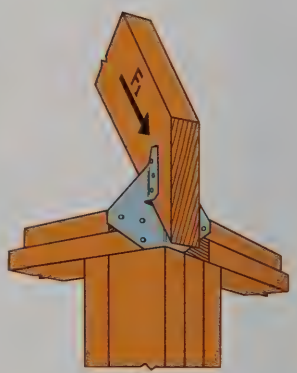
CODE: BOCA, ICBO, SBCCI NER-499.

Member Size	Model No.	Fasteners To Rafters	Fasteners To Plates	Uplift Avg Ult	Doug-Fir-Larch/So. Pine Allowable Loads[1] (133 & 160) Uplift	Doug-Fir-Larch/So. Pine Allowable Loads[1] (133 & 160) F_1	Spruce-Pine-Fir Allowable Loads[1] (133 & 160) Uplift	Spruce-Pine-Fir Allowable Loads[1] (133 & 160) F_1
2x	HCP2	6-10dx1½	6-10dx1½	2017	605	300	520	260
4x	HCP4	8-10d	8-10d	3367	1000	265	860	230

1. Loads may not be increased for short-term loading.
2. The HCP can be installed on the inside and the outside of the wall with a flat bottom chord truss and achieve twice the load capacity.
3. Uplift loads include a 33% and 60% increase for earthquake or wind loading; no further increase allowed.



HCP2 (HCP4 similar)
U.S. Patent 5,380,115



Typical HCP Installation

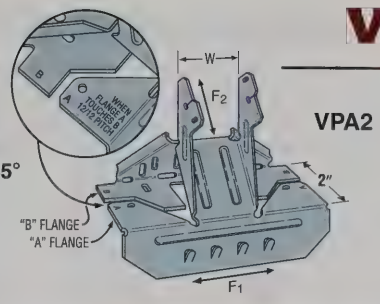
Solid Sawn Connectors

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The VPA is adjustable to slopes between 3:12 and 12:12, complementing the versatile LSSU.

No notching is required when using the VPA. This hanger reduces the need for beveled plates and toe-nailing.

MATERIAL: 18 gauge
FINISH: Galvanized
INSTALLATION: • Use all specified fasteners. See General Notes.
CODE: BOCA, ICBO, SBCCI NER-209.

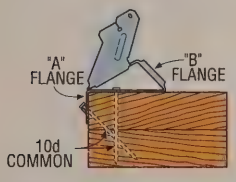


VPA2

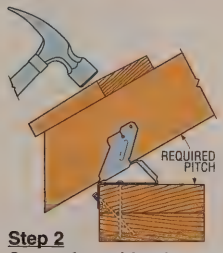
Joist Width	Model No.	W	Fasteners		Allowable Loads													
					Uplift				Download		Lateral							
					DF/SP Species		SPF Species				DF/SP Species				SPF Species			
											(133)		(160)		(133)		(160)	
			Carrying Member	Carried Member	(133)	(160)	(133)	(160)	DF/SP	SPF	F_1	F_2	F_1	F_2	F_1	F_2	F_1	F_2
1½	VPA2	1⅜	8-10d	2-10dx1½	245	295	210	250	1050	870	375	245	375	250	325	210	325	250
2½	VPA3	2⅜	9-10d	2-10dx1½	245	295	210	250	1230	1020	375	245	375	250	325	210	325	250
3½	VPA4	3⅜	11-10d	2-10dx1½	245	295	210	250	1230	1025	375	245	375	250	325	210	325	250

1. Uplift loads include a 33% and 60% increase for earthquake or wind loading; no further increase allowed.
2. Loads may not be increased for short-term loading.

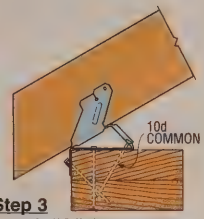
VPA INSTALLATION SEQUENCE



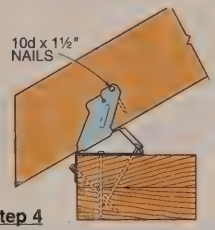
Step 1
Install top nails and face PAN nails in "A" flange to outside wall top plate.



Step 2
Seat rafter with a hammer, adjusting "B" flange to the required pitch.



Step 3
Install "B" flange nails in the obround nail holes, locking the pitch.

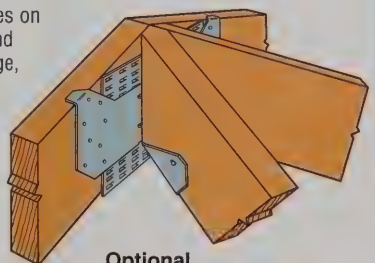


Step 4
Bend tab with hammer and install 10dx1½" nail into tab nail hole. Hammer nail in at a slight angle to prevent splitting.

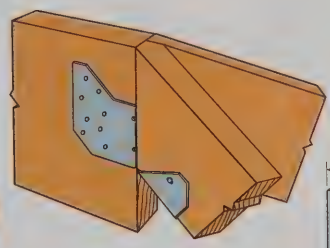
HRC HIP RIDGE CONNECTORS

MATERIAL: HRC22, HRC42–16 gauge; HRC44–14 gauge
FINISH: Galvanized
INSTALLATION: • Use all specified fasteners. See General Notes.
- On end of ridge–use optional diamond holes on HRC22 and HRC42 to secure the HRC. Bend face flanges on HRC22 back flush with ridge, and complete nailing.
- HRC22 on face of ridge–adjust to correct height and install nails.
- Double bevel-cut hip members to achieve full bearing capacity.
- The HRC may be sloped to 45° with no reduction in loads.

CODE: BOCA, ICBO, SBCCI No. NER-499.

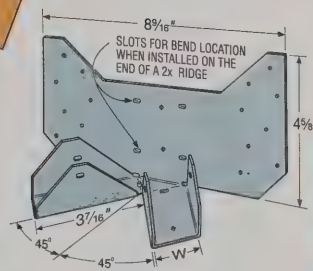


Optional HRC22 Installation



Typical HRC22 Installation on the end of a ridge

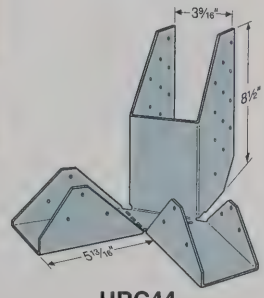
U.S. Patent 5,380,116



HRC22

Model No.	Member Size		Fasteners		Down Avg Ult	Doug Fir Larch/So. Pine Allowable Loads					Spruce-Pine-Fir Allowable Loads				
	W	Ridge	Carrying Member	Each Hip		Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)
HRC22	1⅜	2x or 1¾" wide	16-10dx1½	2-10dx1½	5950	240	290	720	830	900	210	250	625	720	780
HRC42	1⅜	4x	16-16d	2-10dx1½	8267	240	290	1050	1050	1050	210	250	905	905	905
HRC44	3⅜	4x	24-16d	6-16d	12833	480	480	1610	1775	1775	410	410	1385	1525	1525

1. Allowable loads shown are for each hip. Total load carried by the connector is double this number.
2. Uplift loads include a 33% and 60% increase for earthquake or wind loading; no further increase allowed.
3. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for other load durations provided they do not exceed those in the roof column.



HRC44
(HRC42 similar)

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FACE MOUNT HANGERS U/HU I-JOIST HANGERS

See Hanger tables on pages 66 to 70. See Hanger Options on pages 140 and 142 for hanger modifications, which may result in reduced loads.

U—The standard U hanger provides flexibility of joist to header installation. Versatile fastener selection with tested allowable loads.

HU—Most models have triangle and round holes. To achieve maximum loads, fill both round and triangle holes with common nails. These heavy-duty connectors are designed for schools and other structures requiring additional strength, longevity and safety factors.

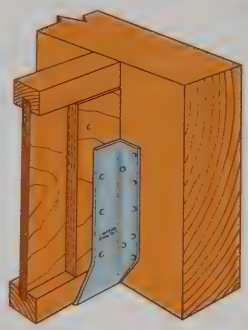
MATERIAL: See tables on pages 66 to 70. **FINISH**: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.
- HU—can be installed filling round holes only, or filling round and triangle holes for maximum values.

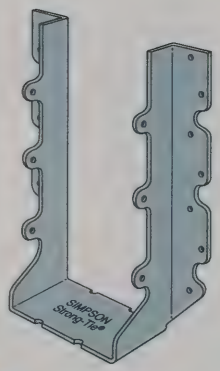
OPTIONS: • HU hangers available with the header flanges turned in for 2-2x (3⅛") and larger widths, with no load reduction–order HUC hanger.
- See Hanger Options on page 142, for sloped and/or skewed U/HU models, and HUC (concealed flange) models.
- HU only—rough beam sizes available by special order.

CODES: ICBO 5117; City of L.A. RR 24947, Dade Co., FL 98-1021.

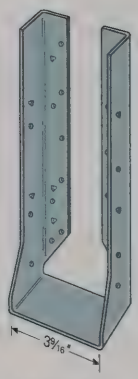
Model configurations may differ from those shown. Some HU models do not have triangle holes. Consult factory.



Typical HU Installation



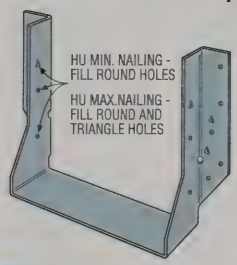
U410



HUC412 Concealed Flanges



HU214 Projection seat on most models for maximum bearing and section economy.



HU68

IUS/IUT/MIU I-JOIST HANGERS

The IUS is a hybrid hanger that incorporates the advantages of face mount and top flange hangers. Installation is easier with the snap-in joist feature and easy-to-reach face nail locations. Joist nails are not required!

The MIU series hangers are designed for commercial and high load I-joist applications without requiring web stiffeners. The MIU features Positive Angle Nailing (PAN), which minimizes splitting of the flanges while permitting time-saving nailing from a better angle.

The IUT features a bend-tab which nails vertically into the I-joist's bottom flange when web stiffeners are not used, or directly into the web stiffener. This constrains the member, helping to reduce squeaks resulting from joist movement.

MATERIAL: See table

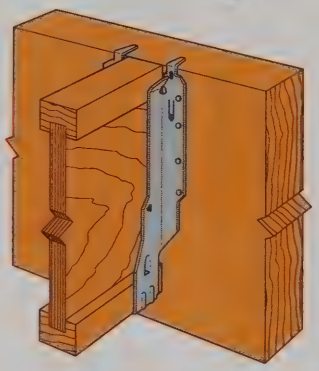
FINISH: Galvanized

UPLIFT LOADS: • Models have optional triangle nail holes for additional uplift (see illustration). Properly attached web stiffeners are required.
- IUT—add two additional 10dx1½" joist nails for a total uplift load of 480 lbs and 575 lbs (33% and 60% increase respectively).
- MIU—add four additional 10dx1½" joist nails for a total uplift load of 720 lbs and 865 lbs (33% and 60% increase respectively).
- The increase is for wind or earthquake loading.

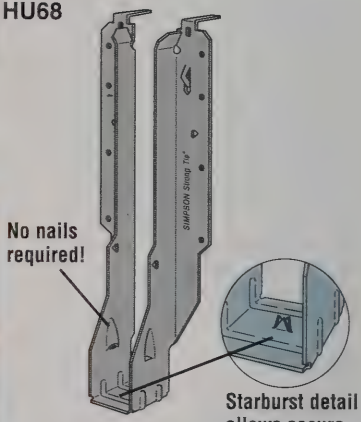
INSTALLATION: • Use all specified fasteners. Verify that the header can take the required fasteners specified in the table.
- IUT—optional seat diamond hole allows pre-attachment of hanger to joist before installation.
- Web stiffeners are not required with I-joists when the joist top flange is laterally supported by the sides of the hanger. I-joist manufacturers may require web stiffeners.

OPTIONS: These hangers cannot be modified. However, these models will normally accommodate a skew of up to 5°. For a sloping joist to ½ :12, tests show a 10% reduction in ultimate hanger strength. Local crushing of the bottom flange or excessive deflection may be limiting; check with joist manufacturer for specific limitations on bearing of this type.

CODES: BOCA, ICBO, SBCCI NER-469; City of L.A. RR25158 (IUT)

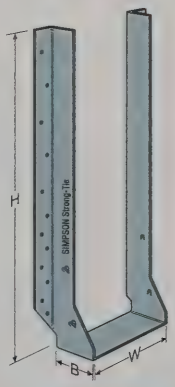


Typical IUS Installation

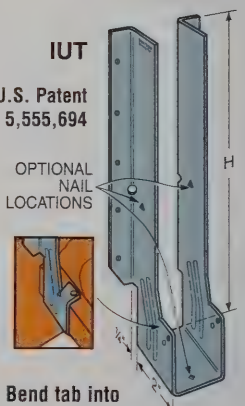


IUS

U.S. Patent Pending



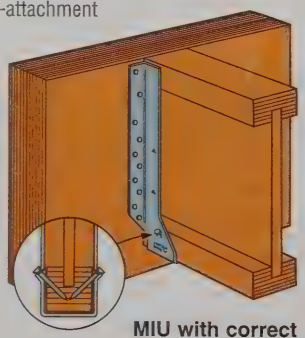
MIU



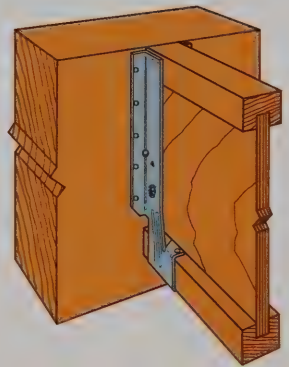
IUT

U.S. Patent 5,555,694

Bend tab into the bottom flange and fasten with 10d x 1½" nails when web stiffeners are not used to help reduce floor squeaks



MIU with correct PAN installation



Typical IUT Installation

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FACE MOUNT HANGERS U/HU

STRUCTURAL COMPOSITE LUMBER HANGERS

See Hanger tables on pages 66 to 70. See Hanger Options on pages 140 and 142 for hanger modifications, which may result in reduced loads.

U—The standard U hanger provides flexibility of joist to header installation. Versatile fastener selection with tested allowable loads.

HU—Most models have triangle and round holes. To achieve maximum loads, fill both round and triangle holes with common nails. These heavy-duty connectors are designed for schools and other structures requiring additional strength, longevity and safety factors.

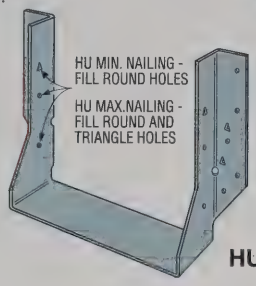
MATERIAL: See tables on pages 66 to 70.

FINISH: Galvanized

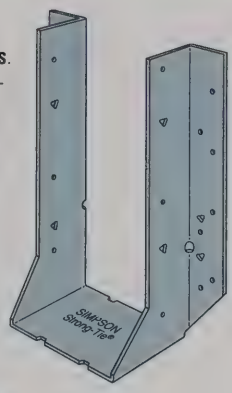
INSTALLATION: • Use all specified fasteners. See General Notes.
- HU—can be installed filling round holes only, or filling round and triangle holes for maximum values.

OPTIONS: • HU hangers available with the header flanges turned in for 2-2x (3⅛") and larger widths, with no load reduction–order HUC hanger.
- See Hanger Options on page 142, for sloped and/or skewed U/HU models, and HUC (concealed flange) models.
- HU only—rough beam sizes available by special order.
- See also HUS series.

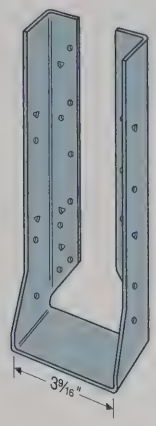
CODES: ICBO 5117; City of L.A. RR 24947; Dade Co., FL 98-1021.01.



HU68



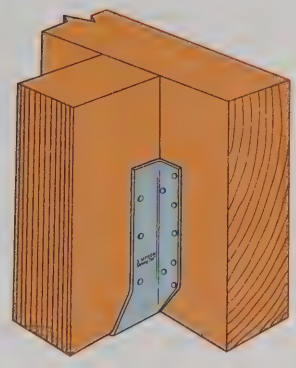
HU410



HUC412 Concealed Flanges

Model configurations may differ from those shown. Some HU models do not have triangle holes. Consult factory for details.

Projection seat on most models for maximum bearing and section economy.



Typical HU Installation

FACE MOUNT HANGERS HUS/HHUS/HGUS

DOUBLE SHEAR SCL HANGERS

See Hanger tables on pages 66 to 70. See Hanger Options on pages 140 and 142 for hanger modifications, which may result in reduced loads.

These hangers have the highest loads of any face mount hangers!

All hangers in this series have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation, and the use of common nails for all connections. (Do not bend or remove tabs)

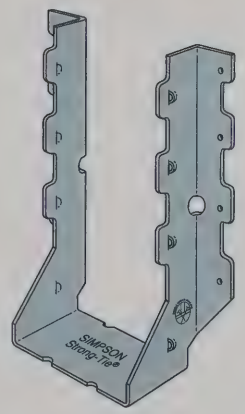
MATERIAL: See tables, pages 66 to 70.

FINISH: Galvanized. Some products available in stainless steel or Z-MAX; see Corrosion-Resistance, page 5.

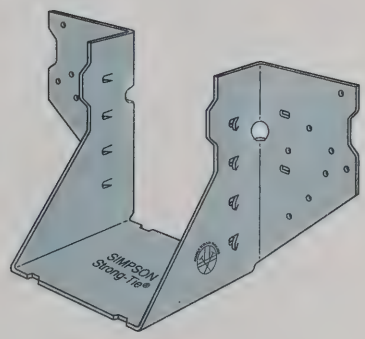
INSTALLATION • Use all specified fasteners. See General Notes.
- Nails must be driven at an angle through the joist or truss into the header to achieve the table loads.
- Not designed for welded or nailer applications.
- 16d sinkers (9 gauge x 3¼") may be used where 10d commons are specified with no reduction in load. Where 16d commons are specified, 10d commons or 16d sinkers (9 gauge x 3¼") may be used at 0.84 of the table load.
- With 3x carrying members, use 16d x 2½" nails into the header and 16d commons into the joist with no load reduction. With 2x carrying members, use 10d x 1½" nails into the header and 10d commons into the joist, and reduce the load to 0.64 of the table value.

OPTIONS: • HUS hangers available with the header flanges turned in for 2-2x (3⅛") and larger widths, with no load reduction. See HUSC Concealed Flange illustration.
- Concealed flanges are not available for HGUS and HHUS.
- See Hanger Options, page 142, for sloped and/or skewed HHUS models.
- Other sizes available; consult your Simpson representative.

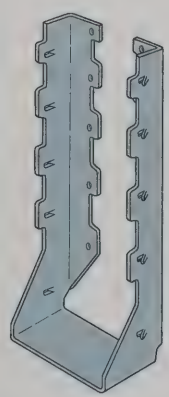
CODES: BOCA, ICBO, SBCCI Nos. NER-209, NER-413, NER-421; City of L.A. RR 24949; Dade Co. FL,No 98-0724.06 (HUS).



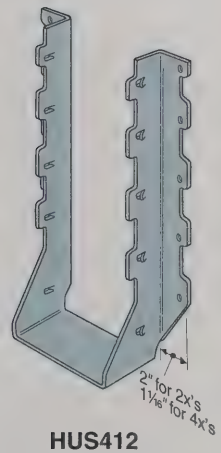
HUS410 (HUS26, HUS28, and HHUS similar)



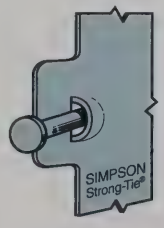
HGUS46



HUSC Concealed Flanges (not available for HHUS, HGUS and HUS2x)

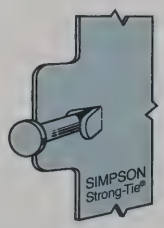


HUS412



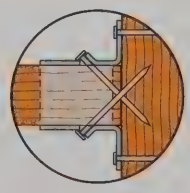
Dome Double Shear Nailing prevents tabs breaking off (available on some models)

U.S. Patent 5,603,580



Double Shear Nailing Side View

U.S. Patent 4,291,996



Double Shear Nailing Top View

U.S. Patent 4,480,941 Canada Patent 1,193,418

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Face Mount Hangers - I-Joists

SIMPSON Strong-Tie CONNECTORS

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions			Fasteners		Allowable Loads							
											DF/SP Species Header			SPF Species Header		
				W	H	B	Face	Joist	Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
1½ x 9¼ -9½	IUS1.56/9.5	—	18	1⅝	9½	2	8-10d	—	75	75	895	1030	1120	775	890	970
	IUT29	—	18	1⅜	9¼	2	8-10dx1½	2-10dx1½	245	255	730	835	910	625	720	780
				1⅜	9¼	2	8-10d	2-10dx1½	245	255	890	1020	1110	770	885	960
	MIU29	—	16	1⅜	9¼	2½	14-16d	2-10dx1½	240	255	1860	2140	2330	1610	1850	2010
1½ x 11¼ - 11⅞	IUS1.56/11.88 Min	—	18	1⅝	11⅞	2	8-10d	—	75	75	895	1030	1120	775	890	970
	IUS1.56/11.88 Max	—	18	1⅝	11⅞	2	10-10d	—	75	75	1120	1290	1400	970	1115	1215
	IUT211	—	18	1⅜	11¼	2	10-10dx1½	2-10dx1½	245	255	910	1045	1140	780	895	975
				1⅜	11¼	2	10-10d	2-10dx1½	245	255	1110	1275	1390	960	1105	1200
	MIU211	—	16	1⅜	11¼	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
1½ x 14	IUT214	—	18	1⅜	13¾	2	14-10dx1½	2-10dx1½	245	255	1275	1465	1590	1090	1255	1365
				1⅜	13¾	2	14-10d	2-10dx1½	245	255	1555	1785	1875	1345	1545	1680
1⅝ x 9¼ -9½	IUT1.68/9	—	18	1⅛	9¼	2	8-10dx1½	2-10dx1½	245	255	730	835	910	625	720	780
				1⅛	9¼	2	8-10d	2-10dx1½	245	255	890	1020	1110	770	885	960
1⅝ x 11¼ -11⅞	IUT1.68/11	—	18	1⅛	11¼	2	10-10dx1½	2-10dx1½	245	255	910	1045	1140	780	895	975
				1⅛	11¼	2	10-10d	2-10dx1½	245	255	1110	1275	1390	960	1105	1200
1⅝ x 14	IUT1.68/14	—	18	1⅛	13⅜	2	14-10dx1½	2-10dx1½	245	255	1275	1465	1590	1090	1255	1365
				1⅛	13⅜	2	14-10d	2-10dx1½	245	255	1555	1785	1940	1345	1545	1680
1¾ x 9¼ -9½	IUS1.81/9.5	—	18	1⅞	9½	2	8-10d	—	75	75	895	1030	1120	775	890	970
	IUT9	—	18	1⅓	9⅜	2	8-10dx1½	2-10dx1½	245	255	730	835	910	625	720	780
				1⅓	9⅜	2	8-10d	2-10dx1½	245	255	890	1020	1110	770	885	960
	MIU1.81/9	—	16	1⅓	9⅜	2½	14-16d	2-10dx1½	240	255	1860	2140	2330	1610	1850	2010
1¾ x 11⅞	IUS1.81/11.88 Min	—	18	1⅞	11⅞	2	8-10d	—	75	75	895	1030	1120	775	890	970
	IUS1.81/11.88 Max	—	18	1⅞	11⅞	2	10-10d	—	75	75	1120	1290	1400	970	1115	1215
	IUT11	—	18	1⅓	11⅜	2	10-10dx1½	2-10dx1½	245	255	910	1045	1140	780	895	975
				1⅓	11⅜	2	10-10d	2-10dx1½	245	255	1110	1275	1390	960	1105	1200
	MIU1.81/11	—	16	1⅓	11⅜	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
1¾ x 14	IUS1.81/14 Min	—	18	1⅞	14	2	12-10d	—	75	75	1345	1545	1680	1165	1340	1455
	IUS1.81/14 Max			1⅞	14	2	14-10d	—	75	75	1570	1805	1865	1360	1560	1700
	IUT14	—	18	1⅓	13¾	2	14-10dx1½	2-10dx1½	245	255	1275	1465	1590	1090	1255	1365
				1⅓	13¾	2	14-10d	2-10dx1½	245	255	1555	1785	1940	1345	1545	1680
	MIU1.81/14	—	16	1⅓	13¾	2½	18-16d	2-10dx1½	240	255	2395	2755	2865	2070	2380	2590
1¾ x 16	IUS1.81/16 Min	—	18	1⅞	16	2	14-10d	—	75	75	1570	1805	1865	1360	1560	1700
	IUS1.81/16 Max			1⅞	16	2	16-10d	—	75	75	1790	1865	1865	1550	1785	1865
	MIU1.81/16	—	16	1⅓	15⅝	2½	20-16d	2-10dx1½	240	255	2660	2865	2865	2300	2645	2865
1¾ x 18 - 20	MIU1.81/16	✓	16	1⅓	15⅝	2½	20-16d	2-10dx1½	240	255	2660	2865	2865	2300	2645	2865
2 x 9½	IUT2.06/9	—	18	2⅛	9⅜	2	8-10d	2-10dx1½	245	255	890	1020	1110	770	885	960
2 x 11⅞	IUT2.06/11	—	18	2⅛	11⅜	2	10-10d	2-10dx1½	245	255	1110	1275	1390	960	1105	1200
2 x 14	IUT2.06/14	—	18	2⅛	13⅜	2	14-10d	2-10dx1½	245	255	1555	1785	1940	1345	1545	1680
2⅝ x 9½	IUT3510	—	18	2⅜	9¼	2	8-10dx1½	2-10dx1½	245	255	730	835	910	625	720	780
				2⅜	9¼	2	8-10d	2-10dx1½	245	255	890	1020	1110	770	885	960
	MIU2.37/9	—	16	2⅜	8⅞	2½	14-16d	2-10dx1½	240	255	1860	2140	2330	1610	1850	2010
	U3510/14	✓	16	2⅝	9	2	14-16d	6-10dx1½	720	865	1860	2140	2330	1610	1850	2010
	HU359 Min	✓	14	2⅜	8⅝	2½	14-16d	6-10dx1½	720	865	1875	2155	2345	1625	1870	2030
	HU359 Max	✓	14	2⅜	8⅝	2½	18-16d	10-10dx1½	1200	1440	2410	2775	3015	2090	2400	2610
2⅝ x11⅞	IUS2.37/11.88 Min	—	18	2⅛	11⅞	2	8-10d	—	75	75	895	1030	1120	775	890	970
	IUS2.37/11.88 Max			2⅛	11⅞	2	10-10d	—	75	75	1120	1290	1400	970	1115	1215
	IUT3512	—	18	2⅜	11¼	2	10-10dx1½	2-10dx1½	245	255	910	1045	1140	780	895	975
				2⅜	11¼	2	10-10d	2-10dx1½	245	255	1110	1275	1390	960	1105	1200
	MIU2.37/11	—	16	2⅜	11¼	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
	U3516/20	✓	16	2⅝	10⅜	2	16-16d	6-10dx1½	720	865	2130	2445	2660	1840	2115	2300
	HU3511 Min	✓	14	2⅜	11⅛	2½	16-16d	6-10dx1½	720	865	2145	2465	2680	1855	2135	2320
	HU3511 Max	✓	14	2⅜	11⅛	2½	22-16d	10-10dx1½	1200	1440	2950	3390	3685	2550	2935	3190
2⅝ x 14	IUS2.37/14 Min	—	18	2⅛	14	2	12-10d	—	75	75	1345	1545	1680	1165	1340	1455
	IUS2.37/14 Max			2⅛	14	2	14-10d	—	75	75	1570	1805	1865	1360	1560	1700
	IUT3514	—	18	2⅜	13¾	2	14-10dx1½	2-10dx1½	245	255	1275	1465	1590	1090	1255	1365
				2⅜	13¾	2	14-10d	2-10dx1½	245	255	1555	1785	1940	1345	1545	1680
	MIU2.37/14	—	16	2⅜	13⅞	2½	18-16d	2-10dx1½	240	255	2395	2755	2990	2070	2380	2590
	HU3514 MIN	✓	14	2⅜	13½	2½	18-16d	8-10dx1½	960	1150	2410	2775	3015	2090	2400	2610
	HU3514 MAX	✓	14	2⅜	13½	2½	24-16d	12-10dx1½	1440	1730	3215	3700	4020	2785	3200	3480
2⅝ x 16	IUS2.37/16 Min	—	18	2⅛	16	2	14-10d	—	75	75	1570	1805	1865	1360	1560	1700
	IUS2.37/16 Max			2⅛	16	2	16-10d	—	75	75	1790	1865	1865	1550	1785	1865
	IUT3516	—	18	2⅜	15⅞	2	16-10d	2-10dx1½	245	255	1775	1865	2220	1535	1765	1920
	MIU2.37/16	—	16	2⅜	15⅞	2½	20-16d	2-10dx1½	240	255	2660	3060	3325	2300	2645	2875
	HU3516/22	✓	14	2⅜	14¼	2½	20-16d	8-10dx1½	960	1150	2660	3060	3325	2300	2645	2875

See footnotes on opposite page.

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Face Mount Hangers - I-Joists

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions			Fasteners		Allowable Loads								
											DF/SP Species Header			SPF Species Header			
				W	H	B	Face	Joist	Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
2⅝ x 18	MIU2.37/18	—	16	2⅜	17⅞	2½	22-16d	2-10d1½	240	255	2925	3365	3420	2530	2910	3160
	HU3524/30 Min	✓	14	2⅝	18	2½	18-16d	8-10dx1½	960	1150	2410	2775	3015	2090	2400	2610
	HU3524/30 Max	✓	14	2⅝	18	2½	24-16d	14-10dx1½	1680	2015	3215	3700	4020	2785	3200	3480
2⅝ x 20	MIU2.37/20	—	16	2⅜	19⅞	2½	24-16d	2-10dx1½	240	255	3190	3420	3420	2760	3175	3420
2⅝ x 22 - 30	MIU2.37/20	✓	16	2⅜	19⅞	2½	24-16d	2-10dx1½	240	255	3190	3420	3420	2760	3175	3420
	HU3524/30 Min		14	2⅝	18	2½	18-16d	8-10dx1½	960	1150	2410	2775	3015	2090	2400	2610
	HU3524/30 Max			2⅝	18	2½	24-16d	14-10dx1½	1680	2015	3215	3700	4020	2785	3200	3480
2½ x 9¼ - 9½	IUS2.56/9.5	—	18	2⅝	9½	2	8-10d	—	75	75	895	1030	1120	775	890	970
	IUT310	—	18	2⅝	9⅛	2	8-10dx1½	2-10dx1½	245	255	730	835	910	625	720	780
				2⅝	9⅛	2	8-10d	2-10dx1½	245	255	890	1020	1110	770	885	960
	MIU39		16	2⅝	8¾	2½	14-16d	2-10dx1½	240	255	1860	2140	2330	1610	1850	2010
	HU310	✓	14	2⅝	8⅞	2½	14-16d	6-10dx1½	720	865	1875	2155	2345	1625	1870	2030
2½ x 11¼ - 11⅞	IUS2.56/11.88 Min	—	18	2⅝	11⅞	2	8-10d	—	75	75	895	1030	1120	775	890	970
	IUS2.56/11.88 Max			2⅝	11⅞	2	10-10d	—	75	75	1120	1290	1400	970	1115	1215
	IUT312	—	18	2⅝	11¼	2	10-10dx1½	2-10dx1½	245	255	910	1045	1140	780	895	975
				2⅝	11¼	2	10-10d	2-10dx1½	245	255	1110	1275	1390	960	1105	1200
	MIU311		16	2⅝	11⅞	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
	HU312	✓	14	2⅝	10⅝	2½	16-16d	6-10dx1½	720	865	2145	2465	2680	1855	2135	2320
2½ x 14	IUS2.56/14 Min	—	18	2⅝	14	2	12-10d	—	75	75	1345	1545	1680	1165	1340	1455
	IUS2.56/14 Max			2⅝	14	2	14-10d	—	75	75	1570	1805	1865	1360	1560	1700
	IUT314	—	18	2⅝	13⅜	2	14-10dx1½	2-10dx1½	245	255	1275	1465	1590	1090	1255	1365
				2⅝	13⅜	2	14-10d	2-10dx1½	245	255	1555	1785	1940	1345	1545	1680
	MIU314		16	2⅝	13⅝	2½	18-16d	2-10dx1½	240	255	2395	2755	2990	2070	2380	2590
	HU314	✓	14	2⅝	12⅜	2½	18-16d	8-10dx1½	960	1150	2410	2775	3015	2090	2400	2610
2½ x 16	IUS2.56/16 Min	—	18	2⅝	16	2	14-10d	—	75	75	1570	1805	1865	1360	1560	1700
	IUS2.56/16 Max			2⅝	16	2	16-10d	—	75	75	1790	1865	1865	1550	1785	1865
	IUT316	—	18	2⅝	15¾	2	16-10d	2-10dx1½	245	255	1775	2040	2220	1535	1765	1920
	MIU316		16	2⅝	15¼	2½	20-16d	2-10dx1½	240	255	2660	3060	3325	2300	2645	2875
	HU316	✓	14	2⅝	14⅛	2½	20-16d	8-10dx1½	960	1150	2680	3080	3350	2320	2670	2900
2½ x 18	MIU318	—	16	2⅝	17¾	2½	22-16d	2-10dx1½	240	255	2925	3365	3420	2530	2910	3160
2½ x 20	MIU320	✓	16	2⅝	19¾	2½	24-16d	2-10dx1½	240	255	3190	3420	3420	2760	3175	3420
2½ x 22 - 26	MIU320	✓	16	2⅝	19¾	2½	24-16d	2-10dx1½	240	255	3190	3420	3420	2760	3175	3420
2⅝ x 9¼ - 9½	IUT2.68/10	—	18	2 1⁄16	9⅜	2	8-10dx1½	2-10dx1½	245	255	730	835	910	625	720	780
				2 1⁄16	9⅜	2	8-10d	2-10dx1½	245	255	890	1020	1110	770	885	960
2⅝ x 11¼ - 11⅞	IUT2.68/12	—	18	2 1⁄16	11⅜	2	10-10dx1½	2-10dx1½	245	255	910	1045	1140	780	895	975
				2 1⁄16	11⅜	2	10-10d	2-10dx1½	245	255	1110	1275	1390	960	1105	1200
2⅝ x 14	IUT2.68/14	—	18	2 1⁄16	13¾	2	14-10dx1½	2-10dx1½	245	255	1275	1465	1590	1090	1255	1365
				2 1⁄16	13¾	2	14-10d	2-10dx1½	245	255	1555	1785	1940	1345	1545	1680
2⅝ x 16	MIU2.68/16	—	16	2 1⁄16	15 1⁄16	2½	20-16d	2-10dx1½	240	255	2660	3060	3325	2300	2645	2875
3 x 9¼ - 9½	MIU29-2	—	16	3⅛	9	2½	14-16d	2-10dx1½	240	255	1860	2140	2330	1610	1850	2010
	HU210-2 Min	✓	14	3⅛	8 13⁄16	2½	14-16d	6-10d	905	1085	1875	2155	2345	1625	1870	2030
	HU210-2 Max			3⅛	8 13⁄16	2½	18-16d	10-10d	1505	1810	2410	2775	3015	2090	2400	2610
3 x 11¼ - 11⅞	MIU211-2	—	16	3⅛	11⅛	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
	HU212-2 Min	✓	14	3⅛	10 9⁄16	2½	16-16d	6-10d	905	1085	2145	2465	2680	1855	2135	2320
	HU212-2 Max			3⅛	10 9⁄16	2½	22-16d	10-10d	1505	1810	2950	3390	3685	2550	2935	3190
3 x 14 - 20	MIU211-2	✓	16	3⅛	11⅛	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
	HU212-2 Min		14	3⅛	10 9⁄16	2½	16-16d	6-10d	905	1085	2145	2465	2680	1855	2135	2320
	HU212-2 Max			3⅛	10 9⁄16	2½	22-16d	10-10d	1505	1810	2950	3390	3685	2550	2935	3190
3¼ x 9¼ - 9½	HU3.31/9 Min	✓	14	3 5⁄16	8 1⁄16	2½	14-16d	6-10d	905	1085	1875	2155	2345	1625	1870	2030
	HU3.31/9 Max			3 5⁄16	8 1⁄16	2½	18-16d	10-10d	1505	1810	2410	2775	3015	2090	2400	2610
3¼ x 11¼ - 11⅞	HU3.31/11 Min	✓	14	3 5⁄16	10 7⁄16	2½	16-16d	6-10d	905	1085	2145	2465	2680	1855	2135	2320
	HU3.31/11 Max			3 5⁄16	10 7⁄16	2½	22-16d	10-10d	1505	1810	2950	3390	3665	2550	2935	3190
3¼ x 14	HU3.31/14 Min	✓	14	3 5⁄16	13¾	2½	20-16d	8-10d	1205	1445	2680	3080	3350	2320	2670	2900
	HU3.31/14 Max			3 5⁄16	13¾	2½	26-16d	12-10d	1810	2015	3485	4005	4355	3015	3470	3770
3¼ x 16 - 20	HU3.31/14 Min	✓	14	3 5⁄16	13¾	2½	20-16d	8-10d	1205	1445	2680	3080	3350	2320	2670	2900
	HU3.31/14 Max			3 5⁄16	13¾	2½	26-16d	12-10d	1810	2015	3485	4005	4355	3015	3470	3770

1. 10d common nails or 16d sinkers (9 gauge x 3¼") may be used instead of the specified 16d nails at 0.84 of the table load value.
2. 16d sinkers (9 gauge x 3¼") may be used instead of the specified 10d commons with no load reduction.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. MIN nailing quantity and load values—fill all round holes; MAX nailing quantity and load values—fill all round and triangle holes.

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Face Mount Hangers - I-Joists

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions			Fasteners		Allowable Loads								
											DF/SP Species Header			SPF Species Header		
				W	H	B	Face	Joist	Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
3½ x 9¼ - 9½	IUS3.56/9.5	—	18	3⁹⁄₁₆	9½	2	10-10d	—	110	110	1120	1290	1400	970	1115	1215
	IUT410			3⁹⁄₁₆	9¼	2	8-10dx1½	2-10dx1½	245	255	730	835	910	625	720	780
				3⁹⁄₁₆	9¼	2	8-10d	2-10dx1½	245	255	890	1020	1110	770	885	960
	MIU49		16	3⁹⁄₁₆	8¾	2½	14-16d	2-10dx1½	240	255	1860	2140	2330	1610	1850	2010
3½ x 11¼ - 11⅞	IUS3.56/11.88	—	18	3⁹⁄₁₆	11⅞	2	12-10d	—	110	110	1345	1545	1680	1165	1340	1455
	IUT412			3⁹⁄₁₆	11¼	2	10-10dx1½	2-10dx1½	245	255	910	1045	1140	780	895	975
				3⁹⁄₁₆	11¼	2	10-10d	2-10dx1½	245	255	1110	1275	1390	960	1105	1200
	MIU411		16	3⁹⁄₁₆	11⅞	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
3½ x 14	IUS3.56/14	—	18	3⁹⁄₁₆	13¹⁵⁄₁₆	2	14-10d	—	110	110	1570	1805	1960	1360	1560	1700
	IUT414			3⁹⁄₁₆	13¾	2	14-10dx1½	2-10dx1½	245	255	1275	1465	1590	1090	1255	1365
				3⁹⁄₁₆	13¾	2	14-10d	2-10dx1½	245	255	1555	1785	1940	1345	1545	1680
	MIU414		16	3⁹⁄₁₆	13⅞	2½	18-16d	2-10dx1½	240	255	2395	2755	2990	2070	2380	2590
3½ x 16	IUS3.56/16	—	18	3⁹⁄₁₆	15¹⁵⁄₁₆	2	16-10d	—	110	110	1790	2060	2240	1550	1785	1940
	IUT416			3⁹⁄₁₆	15¾	2	16-10dx1½	2-10dx1½	245	255	1455	1675	1820	1250	1435	1560
				3⁹⁄₁₆	15¾	2	16-10d	2-10dx1½	245	255	1775	2040	2165	1535	1765	1920
	MIU416		16	3⁹⁄₁₆	15¼	2½	20-16d	2-10dx1½	240	255	2660	3060	3325	2300	2645	2875
3½ x 18	MIU418	—	16	3⁹⁄₁₆	17¼	2½	22-16d	2-10dx1½	240	255	2925	3365	3420	2530	2910	3160
3½ x 20	MIU420	✓	16	3⁹⁄₁₆	19¼	2½	24-16d	2-10dx1½	240	255	3190	3670	3705	2760	3175	3450
3½ x 22 - 30	MIU420	✓	16	3⁹⁄₁₆	19¼	2½	24-16d	2-10dx1½	240	255	3190	3670	3705	2760	3175	3450
4 x 9½	HU4.12/9 Min	✓	14	4⅛	8⅝	2½	14-16d	6-10d	905	1085	1875	2155	2345	1625	1870	2030
	HU4.12/9 Max	✓	14	4⅛	8⅝	2½	18-16d	10-10d	1505	1810	2410	2775	3015	2090	2400	2610
4 x 11⅞ - 14	HU4.12/11 Min	✓	14	4⅛	10⁵⁄₁₆	2½	16-16d	6-10d	905	1085	2145	2465	2680	1855	2135	2320
	HU4.12/11 Max	✓	14	4⅛	10⁵⁄₁₆	2½	22-16d	10-10d	1505	1810	2950	3390	3665	2550	2935	3190
4½-4⅝ x 9¼ - 9½	MIU4.75/9	—	16	4¾	9⁹⁄₁₆	2½	14-16d	2-10dx1½	240	255	1860	2140	2330	1610	1850	2010
	U3510-2		16	4¾	8¾	2	14-16d	6-10d	890	1065	1860	2140	2330	1610	1850	2010
4½-4⅝ x 11¼ - 11⅞	MIU4.75/11	—	16	4¾	11⅞	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
	U3512-2	✓	16	4¾	11¼	2	16-16d	6-10d	890	1065	2130	2445	2660	1840	2115	2300
4½-4⅝ x 14	MIU4.75/14	—	16	4¾	13¾	2½	18-16d	2-10dx1½	240	255	2395	2755	2990	2070	2380	2590
	HU3514-2	✓	14	4¾	13¾	2½	18-16d	8-10d	1205	1445	2410	2775	3015	2090	2400	2610
4½-4⅝ x 16	MIU4.75/16	—	16	4¾	15⁹⁄₁₆	2½	20-16d	2-10dx1½	240	255	2660	3060	3325	2300	2645	2875
	HU3516-2 Min	✓	14	4¾	15¼	2½	20-16d	8-10d	1205	1445	2680	3080	3350	2320	2670	2900
	HU3516-2 Max			4¾	15¼	2½	26-16d	12-10d	1810	2015	3485	4005	4355	3015	3470	3770
4½-4⅝ x 18	MIU4.75/18	—	16	4¾	17⁹⁄₁₆	2½	22-16d	2-10dx1½	240	255	2925	3365	3420	2530	2910	3160
4½-4⅝ x 20	MIU4.75/20	✓	16	4¾	19⁹⁄₁₆	2½	24-16d	2-10dx1½	240	255	3190	3670	3705	2760	3175	3450
	HU3520-2 Min	✓	14	4¾	19¼	2½	20-16d	8-10d	1205	1445	2680	3080	3350	2320	2670	2900
	HU3520-2 Max			4¾	19¼	2½	26-16d	12-10d	1810	2170	3485	4005	4355	3015	3470	3770
4½-4⅝ x 22 - 30	MIU4.75/20	✓	16	4¾	19⁹⁄₁₆	2½	24-16d	2-10dx1½	240	255	3190	3670	3705	2760	3175	3450
	HU3520-2 Min		14	4¾	19¼	2½	20-16d	8-10d	1205	1445	2680	3080	3350	2320	2670	2900
	HU3520-2 Max			4¾	19¼	2½	26-16d	12-10d	1810	2170	3485	4005	4355	3015	3470	3770
5 x 9¼ -9½	MIU39-2	—	16	5⅛	8⅞	2½	14-16d	2-10dx1½	240	255	1860	2140	2330	1610	1850	2010
	HU310-2	✓	14	5⅛	8⅞	2½	14-16d	6-10d	905	1085	1875	2155	2345	1625	1870	2030
5 x 11¼ -11⅞	MIU311-2	—	16	5⅛	11¼	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
	HU312-2	✓	14	5⅛	10⅝	2½	16-16d	6-10d	905	1085	2145	2465	2680	1855	2135	2320
5 x 14	MIU314-2	—	16	5⅛	14	2½	18-16d	2-10dx1½	240	255	2395	2755	2990	2070	2380	2590
5 x 16	MIU316-2	—	16	5⅛	15⅜	2½	20-16d	2-10dx1½	240	255	2660	3060	3325	2300	2645	2875
5 x 18	MIU318-2	—	16	5⅛	17⅜	2½	22-16d	2-10dx1½	240	255	2925	3365	3420	2530	2910	3160
5 x 20	MIU320-2	✓	16	5⅛	19⅜	2½	24-16d	2-10dx1½	240	255	3190	3670	3705	2760	3175	3450
5 x 22 - 30	MIU320-2	✓	16	5⅛	19⅜	2½	24-16d	2-10dx1½	240	255	3190	3670	3705	2760	3175	3450
5¼ x 9¼ - 9½	MIU5.31/9	—	16	5⁵⁄₁₆	8¾	2½	14-16d	2-10dx1½	240	255	1860	2140	2330	1610	1850	2010
5¼ x 11¼ - 11⅞	MIU5.31/11	—	16	5⁵⁄₁₆	11⅞	2½	16-16d	2-10dx1½	240	255	2130	2445	2660	1840	2115	2300
5¼ x 14	MIU5.31/14	—	16	5⁵⁄₁₆	13⅞	2½	18-16d	2-10dx1½	240	255	2395	2755	2990	2070	2380	2590
5¼ x 16	MIU5.31/16	—	16	5⁵⁄₁₆	15¼	2½	20-16d	2-10dx1½	240	255	2660	3060	3325	2300	2645	2875
5¼ x 18	MIU5.31/18	—	16	5⁵⁄₁₆	17¼	2½	22-16d	2-10dx1½	240	255	2925	3365	3420	2530	2910	3160
5¼ x 20	MIU5.31/20	✓	16	5⁵⁄₁₆	19¼	2½	24-16d	2-10dx1½	240	255	3190	3670	3705	2760	3175	3450
5¼ x 22 - 30	MIU5.31/20	✓	16	5⁵⁄₁₆	19¼	2½	24-16d	2-10dx1½	240	255	3190	3670	3705	2760	3175	3450

See footnotes on opposite page.

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SIMPSON Strong-Tie CONNECTORS

Face Mount Hangers - Structural Composite Lumber

Joist Size	Model No.	Ga	Dimensions			Fasteners		Allowable Loads								
										DF/SP Species Header			SPF Species Header			
			W	H	B	Face	Joist	Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
1¾ x 7¼	HU7 MIN	14	1 13/16	6 1/16	2½	12-16d	4-10d×1½	480	575	1610	1850	2010	1390	1600	1740
	HU7 MAX		1 13/16	6 1/16	2½	16-16d	8-10d×1½	960	1150	2145	2465	2680	1855	2135	2320
1¾ x 9¼ - 9½	HUS1.81/10	14	1 13/16	8⅞	3	30-16d	10-16d	2845	3000	4900	5045	5145	4355	5010	5145
	HU9 MIN		1 13/16	9 5/16	2½	18-16d	6-10d×1½	720	865	2410	2775	3015	2090	2400	2610
	HU9 MAX		1 13/16	9 5/16	2½	24-16d	10-10d×1½	1200	1440	3215	3700	4020	2785	3200	3480
1¾ x 11¼ - 11⅞	HUS1.81/10	14	1 13/16	8⅞	3	30-16d	10-16d	2845	3000	4900	5045	5145	4355	5010	5145
	HU11 MIN		1 13/16	11 1/16	2½	22-16d	6-10d×1½	720	865	2950	3390	3685	2550	2935	3190
	HU11 MAX		1 13/16	11 1/16	2½	30-16d	10-10d×1½	1200	1440	4020	4315	4405	3480	4000	4350
1¾ x 14	HUS1.81/10	14	1 13/16	8⅞	3	30-16d	10-16d	2845	3000	4900	5045	5145	4355	5010	5145
	U14	16	1 13/16	10¼	2	14-16d	6-10d×1½	720	865	1860	2140	2330	1610	1850	2010
	HU14 MIN	14	1 13/16	13 1/16	2½	28-16d	8-10d×1½	960	1150	3750	4110	4180	3250	3735	4060
	HU14 MAX		1 13/16	13 1/16	2½	36-16d	14-10d×1½	1680	2015	4540	4730	4855	4175	4730	4855
2 1/16 x 9¼ - 9½	HU2.75/10 MIN	14	2¾	9	2½	14-16d	6-10d×1½	720	865	1875	2155	2345	1625	1870	2030
	HU2.75/10 MAX		2¾	9	2½	18-16d	10-10d×1½	1200	1440	2410	2775	3015	2090	2400	2610
	HGUS2.75/10	12	2¾	8 5/16	4	46-16d	12-16d	3415	4100	7890	8665	8665	6745	7755	8430
2 1/16 x 11¼ - 11⅞	HU2.75/12 MIN	14	2¾	10¾	2½	16-16d	6-10d×1½	720	865	2145	2465	2680	1855	2135	2320
	HU2.75/12 MAX		2¾	10¾	2½	22-16d	10-10d×1½	1200	1440	2950	3390	3685	2550	2935	3190
	HGUS2.75/12	12	2¾	10 5/16	4	56-16d	14-16d	3985	4780	9415	9615	9750	8155	9380	9750
2 1/16 x 14	HU2.75/14 MIN	14	2¾	13	2½	18-16d	8-10d×1½	960	1150	2410	2775	3015	2090	2400	2610
	HU2.75/14 MAX		2¾	13	2½	24-16d	14-10d×1½	1680	2015	3215	3700	4020	2785	3200	3480
	HGUS2.75/14	12	2¾	12 5/16	4	66-16d	16-16d	4555	5000	9605	9840	9995	9565	9840	9995
2 1/16 x 16	HU2.75/16 MIN	14	2¾	14 1/16	2½	20-16d	8-10d×1½	960	1150	2680	3080	3350	2320	2670	2900
	HU2.75/16 MAX		2¾	14 1/16	2½	26-16d	14-10d×1½	1680	2015	3485	4005	4355	3015	3470	3770
	HGUS2.75/14	12	2¾	12 5/16	4	66-16d	16-16d	4555	5000	9605	9840	9995	9565	9840	9995
3½ x 7¼	HU48 MIN	14	3 3/16	6 3/16	2½	10-16d	4-10d	605	725	1340	1540	1675	1160	1335	1365
	HU48 MAX		3 3/16	6 3/16	2½	14-16d	6-10d	905	1085	1875	2155	2345	1625	1870	2030
	HGUS46	12	3⅝	4 7/16	4	20-16d	8-16d	2275	2735	3755	4320	4695	3185	3660	3980
3½ x 9¼ - 9½	U410	16	3 3/16	8⅜	2	14-16d	6-10d	890	1065	1860	2140	2330	1610	1850	2010
	HUS410	14	3 3/16	8 5/16	2	8-16d	8-16d	2160	2590	2010	2310	2510	1650	1900	2065
	HU410 MIN		3 3/16	8⅝	2½	14-16d	6-10d	905	1085	1875	2155	2345	1625	1870	2030
	HU410 MAX		3 3/16	8⅝	2½	18-16d	10-10d	1505	1810	2410	2775	3015	2090	2400	2610
	HHUS410		3⅝	9	3	30-16d	10-16d	2855	3430	5190	5900	5900	4385	5040	5480
	HGUS410	12	3⅝	8 7/16	4	46-16d	12-16d	3415	4100	7890	8665	8665	6745	7755	8430
3½ x 11¼ - 11⅞	U410	16	3 3/16	8⅜	2	14-16d	6-10d	890	1065	1860	2140	2330	1610	1850	2010
	HUS412	14	3 3/16	10½	2	10-16d	10-16d	2700	3240	2510	2885	3140	2065	2375	2580
	HU412 MIN		3 3/16	10 5/16	2½	16-16d	6-10d	905	1085	2145	2465	2680	1855	2135	2320
	HU412 MAX		3 3/16	10 5/16	2½	22-16d	10-10d	1505	1810	2950	3390	3685	2550	2935	3190
	HHUS410		3⅝	9	3	30-16d	10-16d	2855	3430	5190	5900	5900	4385	5040	5480
	HGUS412	12	3⅝	10 7/16	4	56-16d	14-16d	3985	4780	9535	10965	11335	8155	9380	10195
3½ x 14	U414	16	3 3/16	10	2	16-16d	6-10d	890	1065	2130	2445	2660	1840	2115	2300
	HU416 MIN	14	3 3/16	13⅜	2½	20-16d	8-10d	1205	1445	2680	3080	3350	2320	2670	2900
	HU416 MAX		3 3/16	13⅜	2½	26-16d	12-10d	1810	2015	3485	4005	4355	3015	3470	3770
	HHUS410		3⅝	9	3	30-16d	10-16d	2855	3430	5190	5900	5900	4385	5040	5480
	HGUS414	12	3⅝	12 7/16	.4	66-16d	16-16d	4555	5000	11180	11335	11335	9565	11000	11335

1. 10d common nails or 16d sinkers (9 gauge x 3¼") may be used instead of the specified 16d nails at 0.84 of the table load value.
2. 16d sinkers (9 gauge x 3¼") may be used instead of the specified 10d commons with no load reduction.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. MIN nailing quantity and load values—fill all round holes; MAX nailing quantity and load values—fill all round and triangle holes.

Structural Composite Lumber can be Glulam Beam, LVL, TimberStrand® LSL or PSL.

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Face Mount Hangers - Structural Composite Lumber

Joist Size	Model No.	Ga	Dimensions			Fasteners		Allowable Loads							
								Uplift (133)	Uplift (160)	DF/SP Species Header			SPF Species Header		
			W	H	B	Face	Joist			Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
3½ x 16	HHUS410	14	3⅝	9	3	30-16d	10-16d	2855	3430	5190	5900	5900	4385	5040	5480
	HGUS414	12	3⅝	12⁷⁄₁₆	4	66-16d	16-16d	4555	5000	11180	11335	11335	9565	11000	11335
3½ x 18	HHUS410	14	3⅝	9	3	30-16d	10-16d	2855	3430	5190	5900	5900	4385	5040	5480
	HGUS414	12	3⅝	12⁷⁄₁₆	4	66-16d	16-16d	4555	5000	11180	11335	11335	9565	11000	11335
4 x 9½	HU4.12/9 MIN	14	4⅛	8⅝	2½	14-16d	6-10d	905	1085	1875	2155	2345	1625	1870	2030
	HU4.12/9 MAX		4⅛	8⅝	2½	18-16d	10-10d	1505	1810	2410	2775	3015	2090	2400	2610
4 x 11⅞ - 14	HU4.12/11 MIN	14	4⅛	10⁵⁄₁₆	2½	16-16d	6-10d	905	1085	2145	2465	2680	1855	2135	2320
	HU4.12/11 MAX		4⅛	10⁵⁄₁₆	2½	22-16d	10-10d	1505	1810	2950	3390	3665	2550	2935	3190
5¼ x 9¼ - 9½	HU5.31/9 MIN	14	5⁵⁄₁₆	7¾	2½	14-16d	6-16d	1070	1285	1875	2155	2345	1625	1870	2030
	HU5.31/9 MAX		5⁵⁄₁₆	7¾	2½	18-16d	8-16d	1430	1715	2410	2775	3015	2090	2400	2610
	HHUS5.50/10		5½	9	3	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS5.50/10	12	5½	8⁷⁄₁₆	4	46-16d	12-16d	3415	4100	7890	8665	8665	6745	7755	8430
5¼ x 11¼ - 11⅞	HU5.31/11 MIN	14	5⁵⁄₁₆	9⁷⁄₁₆	2½	16-16d	6-16d	1070	1285	2145	2465	2680	1855	2135	2320
	HU5.31/11 MAX		5⁵⁄₁₆	9⁷⁄₁₆	2½	22-16d	8-16d	1430	1715	2950	3390	3685	2550	2935	3190
	HHUS5.50/10		5½	9	3	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS5.50/12	12	5½	10⁷⁄₁₆	4	56-16d	14-16d	3985	4780	9535	10965	11335	8185	9380	10195
5¼ x 14	HU5.31/14 MIN	14	5⁵⁄₁₆	11¹⁄₁₆	2½	18-16d	8-16d	1430	1715	2410	2775	3015	2090	2400	2610
	HU5.31/14 MAX		5⁵⁄₁₆	11¹⁄₁₆	2½	24-16d	12-16d	2145	2575	3215	3700	4020	2785	3200	3480
	HHUS5.50/10		5½	9	3	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS5.50/14	12	5½	12⁷⁄₁₆	4	66-16d	16-16d	4555	5000	11180	11335	11335	9565	11000	11335
5¼ x 16	HU5.31/16 MIN	14	5⁵⁄₁₆	12¾	2½	20-16d	8-16d	1430	1715	2680	3080	3350	2320	2670	2900
	HU5.31/16 MAX		5⁵⁄₁₆	12¾	2½	26-16d	12-16d	2145	2575	3485	4005	4355	3015	3470	3770
	HHUS5.50/10		5½	9	3	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS5.50/14	12	5½	12⁷⁄₁₆	4	66-16d	16-16d	4555	5000	11180	11335	11335	9565	11000	11335
5¼ x 18	HU5.31/16 MIN	14	5⁵⁄₁₆	12¾	2½	20-16d	8-16d	1430	1715	2680	3080	3350	2320	2670	2900
	HU5.31/16 MAX		5⁵⁄₁₆	12¾	2½	26-16d	12-16d	2145	2575	3485	4005	4355	3015	3470	3770
	HHUS5.50/10		5½	9	3	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS5.50/14	12	5½	12⁷⁄₁₆	4	66-16d	16-16d	4555	5000	11180	11335	11335	9565	11000	11335
7 x 9¼ -9½	HU410-2 MIN	14	7⅛	9⅛	2½	14-16d	6-16d	1070	1285	1875	2155	2345	1625	1870	2030
	HU410-2 MAX		7⅛	9⅛	2½	18-16d	8-16d	1430	1715	2410	2775	3015	2090	2400	2610
	HHUS7.25/10		7¼	9	3⁵⁄₁₆	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS7.25/10	12	7¼	8⁷⁄₁₆	4	46-16d	12-16d	3415	4100	7890	9075	9665	6745	7755	8430
7 x 11¼ -11⅞	HU412-2 MIN	14	7⅛	11⅛	2½	16-16d	6-16d	1070	1285	2145	2465	2680	1855	2135	2320
	HU412-2 MAX		7⅛	11⅛	2½	22-16d	8-16d	1430	1715	2950	3390	3685	2550	2935	3190
	HHUS7.25/10		7¼	9	3⁵⁄₁₆	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS7.25/12	12	7¼	10⁷⁄₁₆	4	56-16d	14-16d	3985	4780	9535	9665	9665	8155	9380	9665
7 x 14	HU414-2 MIN	14	7⅛	13⅞	2½	20-16d	8-16d	1430	1715	2680	3080	3350	2320	2670	2900
	HU414-2 MAX		7⅛	13⅞	2½	26-16d	12-16d	2145	2575	3485	4005	4355	3015	3470	3770
	HHUS7.25/10		7¼	9	3⁵⁄₁₆	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS7.25/14	12	7¼	12⁷⁄₁₆	4	66-16d	16-16d	4555	5000	9665	9665	9665	9565	9665	9665
7 x 16	HU414-2 MIN	14	7⅛	13⅞	2½	20-16d	8-16d	1430	1715	2680	3080	3350	2320	2670	2900
	HU414-2 MAX		7⅛	13⅞	2½	26-16d	12-16d	2145	2575	3485	4005	4355	3015	3470	3770
	HHUS7.25/10		7¼	9	3⁵⁄₁₆	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS7.25/14	12	7¼	12⁷⁄₁₆	4	66-16d	16-16d	4555	5000	9665	9665	9665	9565	9665	9665
7 x 18	HU414-2 MIN	14	7⅛	13⅞	2½	20-16d	8-16d	1430	1715	2680	3080	3350	2320	2670	2900
	HU414-2 MAX		7⅛	13⅞	2½	26-16d	12-16d	2145	2575	3485	4005	4355	3015	3470	3770
	HHUS7.25/10		7¼	9	3⁵⁄₁₆	30-16d	10-16d	2855	3430	5190	5970	6490	4385	5040	5480
	HGUS7.25/14	12	7¼	12⁷⁄₁₆	4	66-16d	16-16d	4555	5000	9665	9665	9665	9565	9665	9665

1. 10d common nails or 16d sinkers (9 gauge x 3¼") may be used instead of the specified 16d nails at 0.84 of the table load value.
2. 16d sinkers (9 gauge x 3¼") may be used instead of the specified 10d commons with no load reduction.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. MIN nailing quantity and load values—fill all round holes; MAX nailing quantity and load values—fill all round and triangle holes.

Structural Composite Lumber can be Glulam Beam, LVL, TimberStrand® LSL or PSL.

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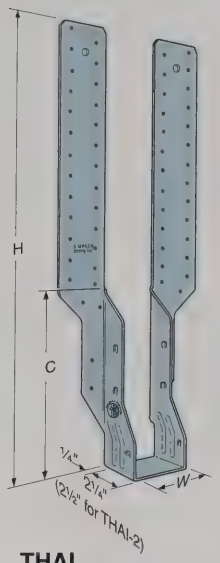
Designed for I-joists, the THAI has extra long straps and can be field-formed to give height adjustability and top flange hanger convenience. Positive angle nailing helps eliminate splitting of the I-joist's bottom flange.

MATERIAL: THAI-2–14 gauge; all others–18 gauge

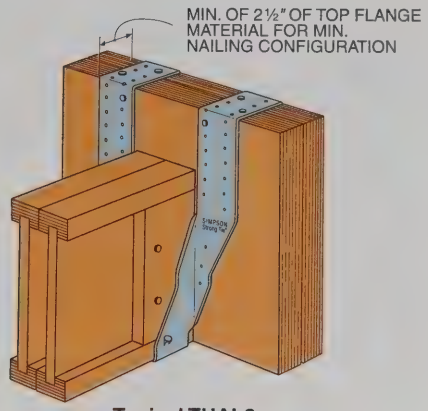
FINISH: Galvanized

INSTALLATION:
- THAI-2 must be factory-ordered for hanger width needed. See table for allowable widths.
- Use all specified fasteners. Verify that the header can take the required fasteners specified in the table.
- Web stiffeners are required for all I-joists used with these hangers.
- When a total of 20 face nails are used in THAI straps, or 30 face nails are used in THAI-2 straps, the maximum load-carrying capacity is achieved.
- Reduce the load given by the allowable nail shear capacity for each nail less than maximum.
- A minimum nailing configuration is shown for top nailing installations. The strap must be field-formed over the top of the header by a minimum of 2½ ".

CODES: ICBO, SBCCI, BOCA NER-469; City of L.A. RR25158.

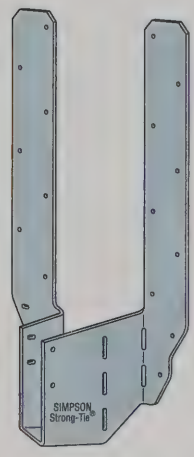


THAI
(THAI-2 similar)

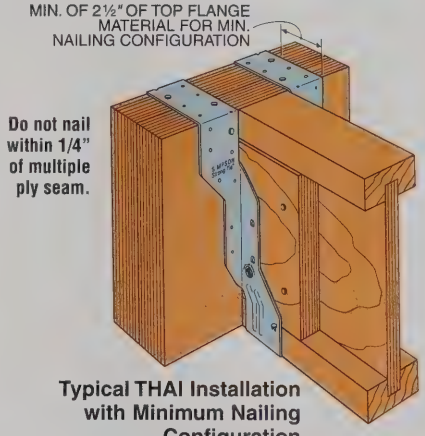


Typical THAI-2 Installation

NEW



THAISL
(THAISR similar)



Typical THAI Installation with Minimum Nailing Configuration

Joist Dimensions		Model No.	Hanger Dimensions		
Width	Depth		W[1]	H	C
1½	9¼-14"	THAI222	1 9/16	22 7/8	9 3/8
1⅝	9¼-14"	THAI1.68/22	1 11/16	22¾	9 5/16
1¾	9¼-14"	THAISL/R1.81/18	1 13/16	18	5¼
1¾	9¼-14"	THAI1.81/22	1 13/16	22¾	9¼
2¼ to 2 5/16	9¼-14"	THAI3522	2 5/16	22½	9
2½	9¼-14"	THAI322	2 5/16	22⅞	8⅞
2⅝	9¼-14"	THAI2.68/22	2 11/16	22¼	8 13/16
3½	9¼-14"	THAI422	3 5/16	21⅞	8⅜
3 to 5¼	9¼-14"	THAI-2	3⅛ to 5 5/16	21 11/16	8 13/16

1. The W dimension should be ordered at 1/16" to 1/8" greater than the joist width.

Nailing Options	Fasteners			Allowable Loads										
	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL Species Header			DF/SP Species Header			SPF Species Header		
						Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
THAI Minimum	4-10dx1½	2-10dx1½	2-10dx1½	—	—	1400	1400	1400	1400	1400	1400	1060	1060	1060
	4-10d	2-10d	2-10dx1½	—	—	1835	1835	1835	1835	1835	1835	1590	1590	1590
THAI Maximum	—	20-10d	2-10dx1½	215	215	2200	2200	2200	2200	2200	2200	1920	2200	2200
THAI-2 Minimum	4-10d	2-10d	2-10dx1½	—	—	2020	2020	2020	2020	2020	2020	2020	2020	2020
THAI-2 Maximum	—	30-10d	2-10dx1½	215	215	3390	3900	4135	3390	3900	4135	2940	3310	3310

1. Uplift loads are based on Doug Fir, and have been increased 33% and 60% for wind or earthquake loading with no further increase allowed.
2. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for durations of loading according to the code, provided they do not exceed those in the roof column.
3. The minimum header depth to achieve the maximum nail configuration is 16".

Model No.	Fasteners			Allowable Loads										
	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL Species Header			DF/SP Species Header			SPF Species Header		
						Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
FACTORY SKEW 45°														
THAISL/R1.81/18 Min	4-10d	6-10d	4-10dx1½	—	—	1420	1420	1420	1420	1420	1420	1220	1220	1220
THAISL/R1.81/18 Max	—	14-10d	4-10dx1½	—	—	1420	1420	1420	1420	1420	1420	1220	1220	1220
FIELD SKEW 46° TO 84°														
THAISL/R1.81/18 Min	4-10d	6-10d	4-10dx1½	—	—	1155	1155	1155	1155	1155	1155	995	995	995
THAISL/R1.81/18 Max	—	12-10d	4-10dx1½	—	—	1155	1155	1155	1155	1155	1155	995	995	995

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TOP FLANGE HANGERS B/HB/BI/LBV/HBI

I-JOIST & STRUCTURAL COMPOSITE LUMBER HANGERS

See tables on pages 77 to 90. See Hanger Options on pages 140 and 141 for hanger modifications, which may result in reduced loads.

Precision forming with manufacturing quality control provides dimensional accuracy and helps ensure proper bearing area and connection.

The LBV is designed especially for use with multiple ply headers 1½" or 1¾" thick, and may be used for weld-on applications.

MATERIAL: See tables, pages 77 to 90.

FINISH: LBV, B and HB—Galvanized; all saddle hangers and all welded sloped and special hangers—Simpson gray paint. B and HB may be ordered hot-dip galvanized; specify HDG.

INSTALLATION: • Use specified fasteners. See General Notes and nailer table.

- LBV, B and HB may be used for weld-on applications. The minimum required weld to the top flanges is ⅛" x 2" fillet weld to each side of each top flange tab for 14 and 12 gauge and 3⁄16" x 2" fillet weld to each side of each top flange tab for 7 gauge. Distribute the weld equally on both top flanges. Welding cancels the top and face nailing requirements. Consult the code for special considerations when welding galvanized steel. The area should be well-ventilated. Weld on applications produce the maximum allowable load listed. Uplift loads do not apply to welded applications.
- Web stiffeners are required for use with this hanger style, except for LBV hangers which are not sloped or skewed.
- Ledgers must be evaluated for each application separately. Check TF dimension, nail length and nail location on ledger.

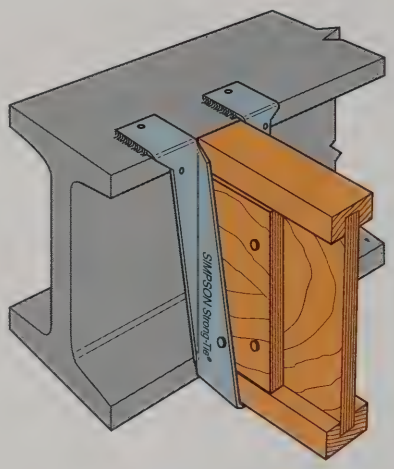
OPTIONS: • LBV, B and HB

- Other widths are available; specify W dimension (the minimum W dimension is 1⁹⁄16" for LBV, 1¾" for all others).
- Saddle hangers are made to order; add "D" to model (e.g. HHBD412); specify S (for saddle) dimension. They may be used for most conditions except at end wall locations, and are preferred for nailer applications.
- The finish on special B hangers will depend on the manufacturing process used. Check with your Simpson representative for details. Hot-dipped galvanized available: specify HDG.
- B dimensions may be increased on some models. Ordering example: LBV1.56X, B=3.5, H=9.5.
- See Hanger Options, page 141.

CODES: BOCA, ICBO, SBCCI NER-393; ICBO 5117; City of L.A. RR 24947, RR 24818.



B (LBV and HB similar)

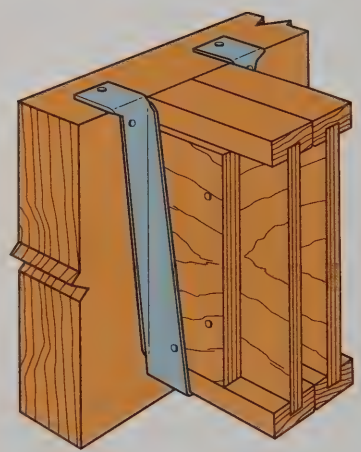


LBV, B and HB are acceptable for weld-on applications. See Instructions to the Installer, page 7, note e.

NAILER TABLE

Model No.	Nailer	Header Nails	Allowable Loads	
			DF/SF	SPF
LBV	2x	6-10dx1½	1835	1835
	2-2x	6-10d	2035	2035
	3x	6-16dx2½	2035	2035
	4x	6-16d	2035	—
B/BI	2x	6-10dx1½	1150	—
	2-2x	6-10d	1400	—
	3x	6-16dx2½	2415	—
	4x	6-16d	2415	—
HB/HBI	2-2x	8-10d	2495	—
	4x	8-16d	3610	—

NAILER TABLE
This shows the maximum allowable loads for LBV, B, BI, HB, and HBI hangers used on wood nailers. Nailers are wood members attached to the top of a steel I-beam, concrete or masonry wall. This table also applies to sloped-seat hangers.



Typical Double BI Hanger Installation (LBV similar)

B SERIES WITH VARIOUS HEADER APPLICATIONS

Model Series	Fasteners			Allowable Loads Header Type							
	Top	Face	Joist[3]	Uplift (133)	Uplift (160)	LVL	PSL[5]	LSL[5]	DF/SP	SPF	I-Joist[4]
LBV	4-10dx1½	2-10dx1½	2-10dx1½	240	290	1785	1675	1785	1835	1835	1230
	4-10d	2-10d	2-10dx1½	240	290	1785	2035	1785	2035	2035	—
	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	—
	4-10dx1½	4-10dx1½	4-10dx1½	480	575	1785	1675	1785	1835	1835	1230
	4-10d	4-10d	4-10dx1½	480	575	1785	2035	1785	2035	2035	—
	4-16d	4-16d	4-10dx1½	480	575	2565	2360	2035	2895	2035	—
BI	2 -10dx1½	2-10dx1½	2-10dx1½	245	295	1500	1825	—	1150	1150	—
	2 -10d	2-10d	2-10dx1½	245	295	1835	1975	—	1400	1400	—
	2 -16d	2-16d	2-10dx1½	245	295	1835	2225	—	2415	1500	—
HBI	4-10d	4-10d	4-10d	615	615	3000	2820	—	3835	2050	—
	4-16d	4-16d	4-10d	615	615	3335	3100	—	3835	2785	—

1. Uplift loads have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
2. Loads may not be increased for short-term loading.
3. Web stiffener required when more than two joist nails are used.
4. I-Joist header with SPF flanges will support 885 lbs.
5. Structural composite lumber is laminated veneer lumber. Parallam® PSL and TimberStrand® LSL.

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TOP FLANGE HANGERS W/WP/WPU/WM/WMU/HW/HWU

I-JOIST AND STRUCTURAL COMPOSITE LUMBER HANGERS

The W, WP, WPU, HWU and HW series purlin hangers offer the greatest design flexibility and versatility. WMs are designed for use on standard 8" grouted masonry block wall construction.

MATERIAL: See tables on pages 77 to 90; W—12 ga. top flange and stirrup; WM, WMU—12 ga. top flange and stirrup; WPU, WP—7 ga. top flange, 12 ga. stirrup; HW—3 ga. top flange, 11 ga. stirrup; HWU—3 ga. top flange, 10 ga, stirrup.

FINISH: Simpson gray paint; hot-dipped galvanized available: specify HDG.

ALLOWABLE LOADS: For hanger heights exceeding the joist height, the allowable load is 0.50 of the table load.

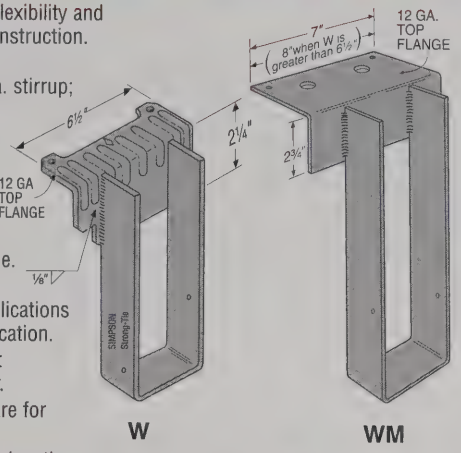
INSTALLATION: • Use all specified fasteners. WM—two 16d duplex nails must be installed into the top flange and embedded into the grouted wall. Verify that the header can take the required fasteners specified in the table.

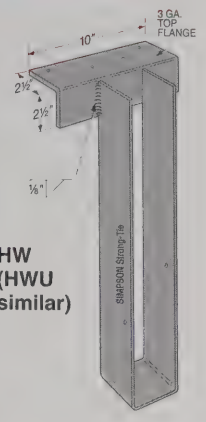
- Hangers may be welded to steel headers with ⅛" for W, 3⁄16" for WP, and ¼" for HW, by 1½" fillet welds located at each end of the top flange. Weld-on applications produce maximum allowable load listed. Uplift loads do not apply to this application.
- Hangers can support multi-ply carried members; the individual members must be secured together to work as a single unit before installation into the hanger.
- H dimensions are sized to account for normal joist shrinkage. W dimensions are for dressed timber widths.
- Embed **WM** into block with a minimum of one course above and one course below the top flange with one #5 vertical rebar minimum 24" long in each cell. **Minimum grout strength is 2000 psi.**

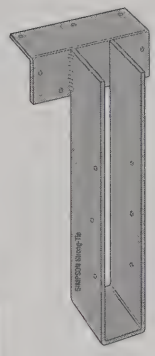
OPTIONS: • Web stiffeners are required for standard joist nailing configurations with this hanger style. Specify alternate nailing pattern when web stiffeners are not being used (up to 16" in depth). Add X ANP after model number for nailing into the flange, available for 90° applications only. Uplift loads do not apply to this application.

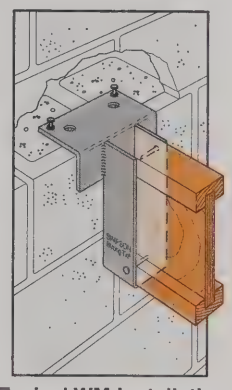
- **See Hanger Options, page 143 for hanger modifications and associated load reductions.**

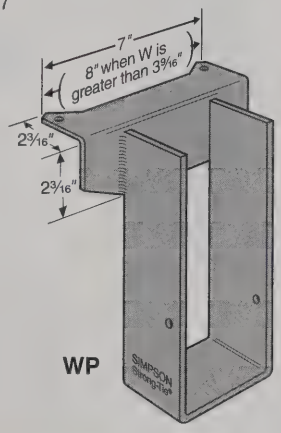
CODES: ICBO 5117; BOCA, ICBO, SBCCI NER-209. City of L.A. RR24947 and RR24949; Dade Co FL. 98-1021.01 (WM)









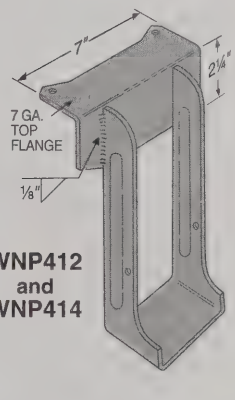


Model	Nailer	Top Flange Nailing	Allowable Loads		
			DF/SP	SPF	LSL
W	2x	2-10dx1½	1600	1600	—
	3x	2-16dx2½	1765	1740	—
	2-2x	2-10d	1665	1665	—
	4x	2-10d	2200	2200	—
WP	2x	2-10dx1½	2525	2500	3375
	3x	2-16dx2½	3000	2510	3375
	2-2x	2-10d	3255	3255	—
	4x	2-10d	3255	3255	—
HW	4x	4-16d	5285	—	—

NAILER TABLE

The table indicates the maximum allowable loads for W, WP, WNP and HW hangers used on wood nailers. Nailers are wood members attached to the top of a steel I-beam, concrete or masonry wall. This table also applies to sloped-seat hangers.

Some model configurations may differ from those shown. Contact factory for details.



W SERIES WITH VARIOUS HEADER APPLICATIONS

Model	Joist		Fasteners			Allowable Loads Header Type							
	Width	Depth	Top	Face	Joist	Uplift (133 & 160)	LVL	PSL[4]	LSL[4]	DF/SP	SPF	I-Joist	Masonry
WI	1½ to 4	3½ to 30	2-10dx1½	—	2-10dx1½	—	1635	1740	—	1600	1415	—	—
	1½ to 4	3½ to 30	2-10d	—	2-10dx1½	—	2150	2020	—	2200	1435	—	—
	1½ to 4	3½ to 30	2-16d	—	2-10dx1½	—	2335	1950	2335	1765	1435	—	—
WMI	1½ to 4	3½ to 30	2-16d DPLX	—	2-10dx1½	—	—	—	—	—	—	—	4175
WMU	1½ to 7½	9 to 18	2-16d DPLX	4-¼x1" Masonry	6-10dx1½	660	—	—	—	—	—	—	4175
	1½ to 7½	18½ to 22½	2-16d DPLX	4-¼x1" Masonry	6-10dx1½	660	—	—	—	—	—	—	4175
	1½ to 7½	23 to 28	2-16d DPLX	4-¼x1" Masonry	6-10dx1½	625	—	—	—	—	—	—	4175
WPI	1½ to 7½	3½ to 30	3-10dx1½	—	2-10dx1½	—	2865	3250	—	2500	2000	2030	—
	1½ to 7½	3½ to 30	3-10d	—	2-10dx1½	—	2525	3250	3650	3255	2525	—	—
	1½ to 7½	3½ to 30	3-16d	—	2-10dx1½	—	3635	3320	3650	3255	2600	—	—
WPU	1¾ to 5½	7¼ to 18	3-16d	4-16d	6-10dx1½	775	4700	4880	3650	4165	4165	—	—
	1¾ to 5½	18½ to 22½	3-16d	4-16d	6-10dx1½	485	4700	4880	3650	4165	4165	—	—
	1¾ to 5½	23 to 28	3-16d	4-16d	6-10dx1½	315	4700	4880	3650	4165	4165	—	—
HWI	1½ to 7½	3½ to 32	4-10d	—	2-10dx1½	—	3100	4000	—	5285	3100	—	—
	1½ to 7½	3½ to 32	4-16d	—	2-10dx1½	—	5100	4000	4500	5285	3665	—	—
HWU	1¾ to 3⅜6	9 to 18	4-16d	4-16d	6-10dx1½	810	6335	5500	5535	6335	5415	—	—
	1¾ to 3⅜6	18½ to 22½	4-16d	4-16d	6-10dx1½	765	6335	5500	5535	6335	5415	—	—
	1¾ to 3⅜6	23 to 28	4-16d	4-16d	6-10dx1½	635	6335	5500	5535	6335	5415	—	—
	1¾ to 3⅜6	28½ to 32	4-16d	4-16d	8-10dx1½	1005	6335	5500	5535	6335	5415	—	—
	4¾ to 7⅛	9 to 18	4-16d	4-16d	6-10dx1½	810	6000	5500	5535	6000	5415	—	—
	4¾ to 7⅛	18½ to 22½	4-16d	4-16d	6-10dx1½	765	6000	5500	5535	6000	5415	—	—
	4¾ to 7⅛	23 to 28	4-16d	4-16d	6-10dx1½	635	6000	5500	5535	6000	5415	—	—
	4¾ to 7⅛	28½ to 32	4-16d	4-16d	8-10dx1½	1005	6000	5500	5535	6000	5415	—	—

1. 10d roofer nails (.148 x 2⅛) may be substituted for 10d commons in W hangers; no load reduction.
2. 16d sinkers (9 ga x 3") may be used where 10d commons are called out with no load reduction.
3. Uplift loads are based on Doug Fir, and have been increased 33% and 60% for wind or earthquake loading; no further increase allowed. Reduce by 33% and 60% for normal loading like cantilever construction.
4. Structural composite lumber is laminated veneer lumber, Parallam® PSL and TimberStrand® LSL.

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ITT/ITTM/MIT/HIT COMPOSITE WOOD PRODUCTS HANGERS

See page 115 for ITTM installation information and details.

Bend Tab Nailing

Nail the ITT's special bend-tab with 10dx1½" nails vertically into the bottom flange of the I-joist when web stiffeners are not used. The bend tab can also be nailed directly into the web stiffener. This constrains the I-joist, helping to reduce squeaks resulting from joist movement. Reduced embossing on the ITT's top flange, and the hanger height sized less than the joist height allow easier fitting for smooth floor alignment. The funnel flange assists easy, fast installation.

Patented Positive Angle Nailing

This feature is specifically designed for wood web I-joists when used with the MIT or HIT. With Positive Angle Nailing (PAN), the slotted hole material is not removed, but is used to channel and confine the path of the nail to the optimum angle. PAN minimizes splitting of the flanges while permitting time-saving nailing from a better angle.

MATERIAL: ITT—18 gauge; MIT, HIT—16 gauge

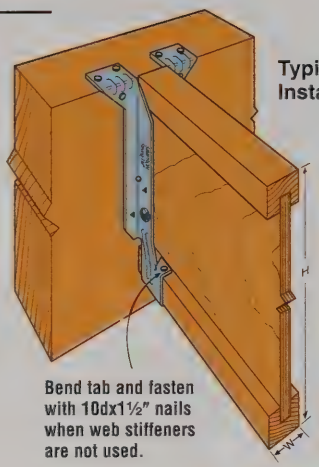
FINISH: Galvanized

INSTALLATION:
- Use all specified fasteners. Verify that the header can take the required fasteners specified in the table.
- ITT's face flange triangle hole (optional) secures hanger against header; optional diamond hole in seat allows further attachment of hanger to I-joist.
- ITT's bend-tab may be nailed unbent into plywood web stiffeners.

ALLOWABLE LOADS: • The ITT, MIT and HIT hangers have locations for optional nails if additional uplift is needed. Optional uplift nailing requires the addition of properly-secured web stiffeners. See the load tables for minimum required fasteners and allowable uplift loads.

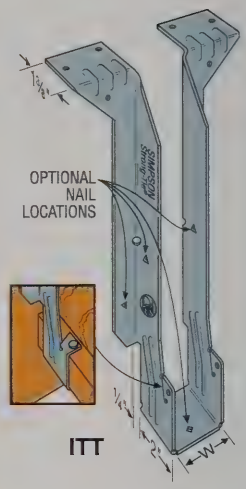
OPTIONS:
- Because these hangers are fully die-formed, they cannot be modified. However these models will normally accommodate a skew of up to 5°.
- Product tests show a 10% reduction in ultimate hanger strength when the joist is sloped to ½:12 when used with these hangers. Local crushing of the bottom flange or excessive deflection may be limiting; check with joist manufacturer for specific limitations on bearing of this type.

CODES: BOCA, ICBO, SBCCI NER-209, NER-393 and NER-469; City of LA RR 24818, RR 24949 and RR 25158.

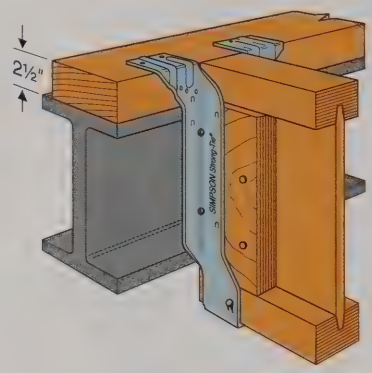


Typical ITT Installation

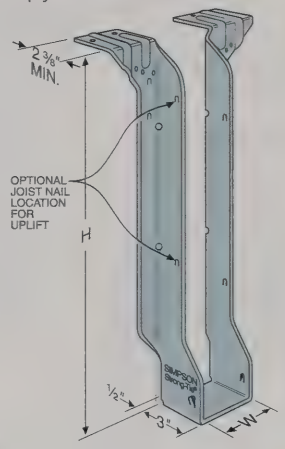
Bend tab and fasten with 10dx1½" nails when web stiffeners are not used.



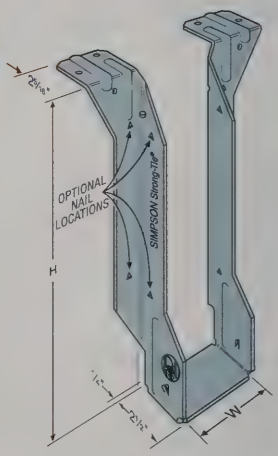
ITT



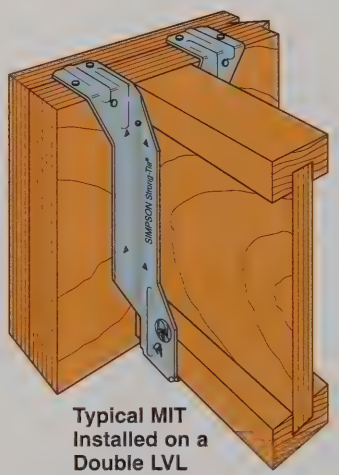
HIT Installation on a 3x Nailer mounted on a Steel Beam



HIT



MIT

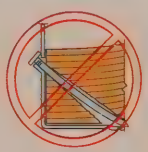


Typical MIT Installed on a Double LVL

Some model configurations may differ from those shown. Contact factory for details.



Correct Nailing



Nail Too Long



Nail at Wrong Angle

NAILER TABLE

This table indicates the maximum allowable loads for ITT/MIT/HIT hangers used on wood nailers. The header nail type must be substituted for those listed in other tables.

Model	Nailer	Header Nailing	Allowable Load		
			DF/SP	SPF	LSL
ITT Series	2x	6-10dx1½	1215	1215	1230
	3x	6-16dx2½	1550	1550	—
	2-2x	6-10d	1215	1215	—
	4x	6-16d	1550	1550	—
MIT Series	2x	6-10dx1½	1570	1440	1605
	3x	6-16dx2½	1975[1]	—	—
	2-2x	6-10d	1570	1255	—
	4x	6-16d	2250[1]	—	—
HIT Series	3x	10-16dx2½	2835	—	—
	2-2x	10-10d	2525	—	—
	4x	10-16d	3050[1]	—	—

1. These hangers may deflect an additional 1/32" at design load.

OPTIONAL NAILING FOR INCREASED UPLIFT

Model	Fasteners			Allowable Uplift Loads	
	Top	Face	Joist	(133)	(160)
ITT	4-10dx1½	4-10dx1½	4-10dx1½	485	575
	4-10d	4-10d	4-10dx1½	485	575
	4-16d	4-16d	4-10dx1½	485	575
MIT	4-10dx1½	4-10dx1½	4-10dx1½	480	575
	4-16d	4-16d	4-10dx1½	480	575
	4-16d	4-16d	6-10dx1½	710	850
HIT	4-16d	6-16d	4-10dx1½	480	575
	4-16dx2½	6-16dx2½	4-10dx1½	480	575
	4-16d	6-16d	6-10dx1½	720	850

1. Loads are based on Doug Fir, and have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce according to the code for normal loading criteria such as in cantilever construction.
2. Web stiffeners are required on I-joist for additional nailing.

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IT SERIES WITH VARIOUS HEADER APPLICATIONS

Model	Fasteners			Allowable Loads Header Type								
	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL	PSL[7]	LSL[7]	DF/SP	SPF	DF[6] I-Joist	Masonry
ITT Series	4-10dx1½	2-10dx1½	2-10dx1½	245	285	1235	1225	1435	1235	1065	1050	—
	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	—	—
	4-16d	2-16d	2-10dx1½	245	285	1500	1535	1500	1750	1315	—	—
ITTM Series	3-Titen[3]	2-Titen[3]	2-10dx1½	225[5]	225[5]	—	—	—	—	—	—	1545[4]
MIT Series	4-10dx1½	2-10dx1½	2-10dx1½	240	290	2035	1500	1605	1950	1115	1230	—
	4-10d	2-10d	2-10dx1½	240	290	2335	2000	1605	2400	1665	—	—
	4-16d	2-16d	2-10dx1½	240	290	2650	2000	2115	2400	1665	—	—
HIT Series	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—

1. Loads, and may not be increased for short-term loading.
2. Uplift loads are based on Doug Fir, and have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce according to the code for normal loading criteria like cantilever construction.
3. Top and face fasteners are only required when installed on top of the wall. Header fasteners are 3⁄16" x 2¼" Titen screws, see page 6.
4. ITTM loads are based on 2000 psi min concrete or grout.
5. ITTM uplift loads apply only when 2 top flange face screws are installed.
6. I-Joist headers with SPF flanges only support 835 lbs.
7. Structural composite lumber is laminated veneer lumber, Parallam® PSL and TimberStrand® LSL.

Parallam® and TimberStrand® are registered trademarks of Trus Joist, a Weyerhaeuser company

PAI/CPAI/MPAI PURLIN ANCHORS

Wood-to-concrete and -concrete block connectors that satisfy code requirements. The PA's Dual Embedment Line allows installation in concrete or concrete block.

MATERIAL: CPAI—18 ga; MPAI—14 ga; PAI—12 ga.

FINISH: Galvanized. Some products available HDG or Z-MAX.

INSTALLATION: • Minimum concrete strength is 2000 psi.

- Use all specified fasteners; some models have extra fastener holes. See General Notes.
- Wood splitting may occur when anchor is nailed to wood less than 3½" wide. For widths less than 3½", see PAHD Holdowns for alternate nailing configurations.
- PAI is designed for wood I-joists. Nail spacing is for 10dx1½" nails 3" on center, to minimize the chance of wood splitting. Maximum ledger width for full loads is 1½".

EDGE DISTANCE—Minimum concrete edge distance is 5". Minimum concrete block left-to-right edge distance is 20".

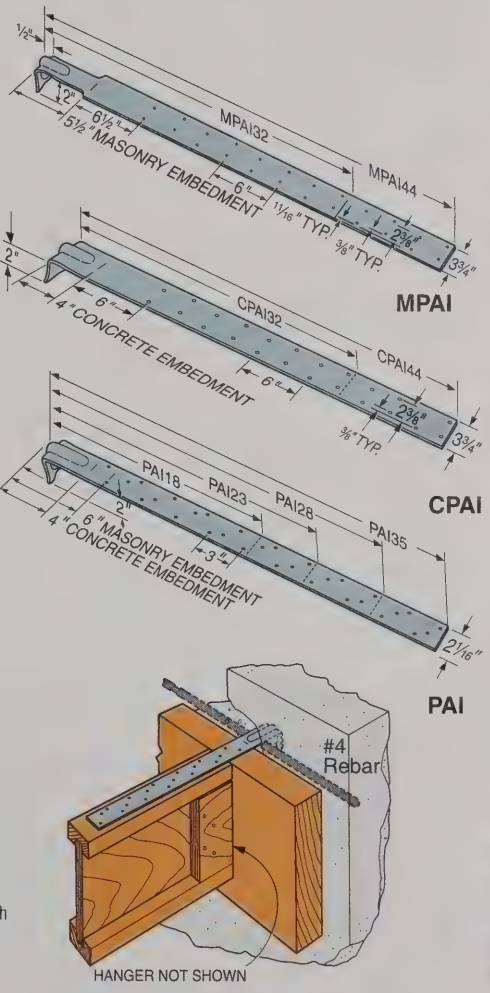
CONCRETE BLOCK WALLS—The masonry embedment line on PAI, MPAI allows for 4" of grout embedment in a standard 8" concrete masonry unit. The minimum wall specifications are: one # 4 vertical rebar, 32" long, at 32" o.c.; two courses of block above and below the anchor; a horizontal bond beam with two # 4 rebars, 40" long, a maximum of two courses above or below the anchor; all cells grouted with 2000 psi 3⁄8" aggregate grout. Grout shall be vibrated per the 1997 UBC section 2104.6.2.

OPTIONS: See LTT and HTT Tension Ties.

CODES: BOCA, ICBO, SBCCI NER-393 and NER-499.

Model No.	L	Fasteners		Allowable Loads			
		Masonry	Concrete	Masonry		Concrete	
				(133)	(160)	(133)	(160)
Maximum Capacity							
PAI18	18	10-10dx1½	12-10dx1½	1255	1505	1505	1805
PAI23	23	15-10dx1½	17-10dx1½	1880	2255	2130	2560
PAI28	29	21-10dx1½	23-10dx1½	2630	2815	2885	3460
PAI35	35	26-10dx1½	29-10dx1½	2815	2815	3635	3685
CPAI32	32	—	16-10dx1½	—	—	1940	2330
CPAI44	44	—	24-10dx1½	—	—	2910	3435
MPAI32	32	16-10dx1½	—	1960	2355	—	—
MPAI44	44	24-10dx1½	—	2865	2865	—	—
1¾ LVL and 3x Ledger							
PAI18	18	8-10dx1½	10-10dx1½	1000	1205	1255	1505
PAI23	23	13-10dx1½	15-10dx1½	1630	1955	1880	2255
PAI28	29	19-10dx1½	21-10dx1½	2380	2815	2630	3160
PAI35	35	24-10dx1½	27-10dx1½	2815	2815	3385	3685
CPAI32	32	—	16-10dx1½	—	—	1940	2330
CPAI44	44	—	24-10dx1½	—	—	2910	3435
MPAI32	32	16-10dx1½	—	1960	2355	—	—
MPAI44	44	24-10dx1½	—	2865	2865	—	—
4x Ledger							
PAI18	18	7-10dx1½	9-10dx1½	875	1055	1130	1355
PAI23	23	12-10dx1½	14-10dx1½	1505	1805	1755	2105
PAI28	29	18-10dx1½	20-10dx1½	2255	2705	2505	3010
PAI35	35	23-10dx1½	26-10dx1½	2815	2815	3260	3685
CPAI32	32	—	16-10dx1½	—	—	1940	2330
CPAI44	44	—	24-10dx1½	—	—	2910	3435
MPAI32	32	16-10dx1½	—	1960	2355	—	—
MPAI44	44	24-10dx1½	—	2865	2865	—	—

1. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load durations according to the code.



PAI Purlin to Concrete Wall (CPAI similar)

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GLTV/HGLTV HEAVY DUTY HANGERS

GLTV and HGLTV hangers are designed for use with laminated veneer lumber (LVL) or parallel strand lumber (PSL) headers, and may take heavy loads. The top flange nails are sized and specifically located to prevent degradation of the header due to splitting of laminations.

For heavy loads with a face-mount application, see the HGUS series.

MATERIAL: Top flange—3 gauge; Stirrups—7 gauge

FINISH: Simpson gray paint

ALLOWABLE LOADS: • For hanger heights exceeding the joist height, the allowable load is 50% of the table load.

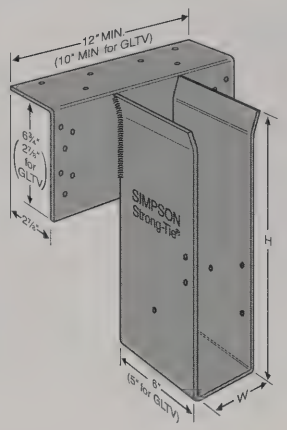
INSTALLATION: • Use all specified fasteners. Verify that the header can take the required fasteners specified in the table.

- This series may be used for weld-on applications. Minimum required weld is a 3⁄16″ x 2½″ fillet weld at each end of the top flange for GLTV, and a ¼″ x 2½″ fillet weld at each end of the top flange for HGLTV. Weld-on applications produce maximum loads listed. Uplift loads do not apply to this application.
- Web stiffeners are required with I-joists using this hanger style.
- Nailers and ledgers must be a minimum of 4x lumber to guarantee the load values given in the tables. Thinner lumber or laminated veneer lumber used as a nailer must be evaluated by the building designer. The HGLTV series cannot be used with a nailer.

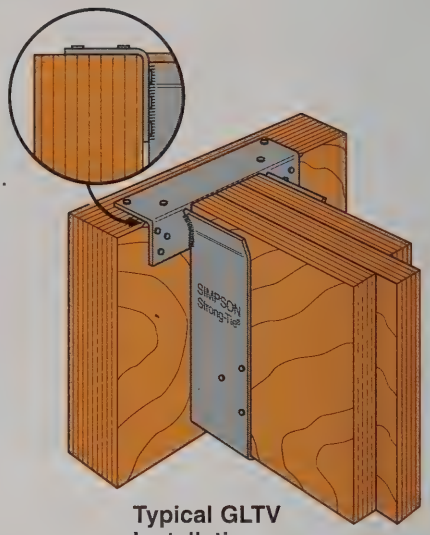
OPTIONS: • Hot-dipped galvanized: specify HDG.

- See Hanger Options, page 124.

CODES: BOCA, ICBO, SBCCI NER-443. City of LA RR25149.



HGLTV (GLTV similar)



Flatten edge of header to match top flange radius.

Typical GLTV Installation

Model No.	Fasteners			Allowable Loads						
	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL	PSL[3]	LSL[4]	DF/SP	SPF
GLTV series	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—
HGLTV series	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	6690

1. Uplift loads have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
2. Uplift loads only apply when "H" is 28″ or less.
3. If header is multiple plies of 1¾″, the PSL allowable load is 6000 lbs.
4. HGLTV at maximum allowable load may have greater than ⅛″ deflection.

EGP BEAM AND GLULAM HANGERS

The EGP is a high capacity bolted connector designed for Parallam® PSL beams.

This whole series has precision fabrication offers dimensional accuracy, and the funnel flanges aid installation.

MATERIAL: See table.

FINISH: Simpson gray paint. Hot-dip galvanized available; specify HDG.

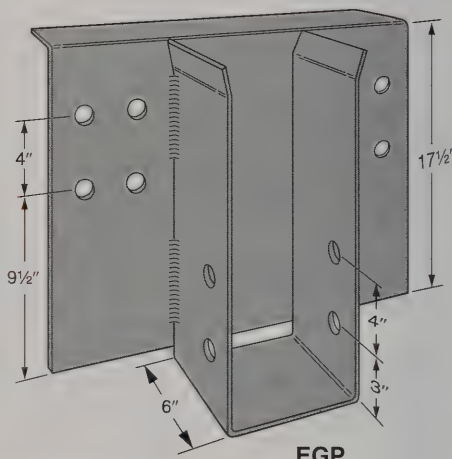
INSTALLATION: • Use all specified fasteners. See General Notes.

OPTIONS: • See Hanger Options.

- Special models are available without top flanges; see table loads.

CODE: ICBO 5117; City of L.A. RR 24947.

Model	Top Flange Ga	Top Flange Length (L)
EGP3.62	3	19
EGP4.50		19⅞
EGP5.37		20¾
EGP7.12		22½



EGP

Joist or Purlin Size	Model No.	Stirrup Ga	Dimensions			Bolts				Down Avg Ult	Allowable Loads					
			W	Min H	TF	Header		Joist			Without Top Flange		No Triangle Theory		Triangle Theory	
						Qty	Dia	Qty	Dia		Floor (100)	Roof (125)	Floor (100)	Roof (125)	Floor (100)	Roof (125)
3½ PARALLAM®	EGP3.62	7	3⅝	11	2½	8	1MB	2	1MB	70000	—	—	17325	17325	—	—
4⅜ PARALLAM®	EGP4.50	7	4½	11	2½	8	1MB	2	1MB	70000	—	—	17325	17325	—	—
5¼ PARALLAM®	EGP5.37	7	5⅜	11	2½	8	1MB	2	1MB	70000	—	—	17325	17325	—	—
7 PARALLAM®	EGP7.12	7	7⅛	11	2½	8	1MB	2	1MB	70000	—	—	17325	17325	—	—

1. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for other load durations according to the code, provided they do not exceed those in the roof column.
2. Loads are based on 750 psi wood bearing for Parallam.
3. EGPs require a minimum carrying width of 3½" and a minimum carrying depth of 18".
4. "Min H" is the minimum H dimension that may be specified.

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Top Flange Hangers—I-Joists & SCL

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners [1,4,5]			Allowable Loads [2]								
								Solid Header [5]		Joist	Uplift (133)	Uplift (160)	LVL	PSL [6]	LSL [6]	DF/SP	SPF	DF I-Joist [5]	Masonry [4]
				W	H	B	TF	Top	Face										
1½ x 9¼	ITT29.25	—	18	1 9/16	9 3/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	
	B29.25	✓	12	1⅝	9¼	3½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W29.25	✓	12	1⅝	9¼	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WP29.25	✓	12	1⅝	9¼	4	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	ITTM29.25 [4]	—	18	1⅝	9 1/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM29.25 [4]	✓	12	1⅝	9¼	4½	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175
1½ x 9½	ITT29.5	—	18	1⅝	9 7/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT29.5	—	16	1⅝	9½	2½	2 5/16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	W29.5	✓	12	1⅝	9½	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	LBV29.5	✓	14	1⅝	9½	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	WP29.5	✓	12	1⅝	9½	4	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	ITTM29.5 [4]	—	18	1⅝	9 5/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM29.5 [4]	✓	12	1⅝	9½	4½	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175
1½ x 11¼	ITT211.25	—	18	1⅝	11 3/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	B211.25	✓	12	1⅝	11¼	3½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W211.25	✓	12	1⅝	11¼	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WP211.25	✓	12	1⅝	11¼	4	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	ITTM211.25 [4]	—	18	1⅝	11 1/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM211.25 [4]	✓	12	1⅝	11¼	4½	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175
1½ x 11⅞	ITT211.88	—	18	1⅝	11 13/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT211.88	—	16	1⅝	11⅞	2½	2 5/16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV211.88	✓	14	1⅝	11⅞	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B211.88	✓	12	1⅝	11⅞	3½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W211.88	✓	12	1⅝	11⅞	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WP211.88	✓	12	1⅝	11⅞	4	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	ITTM211.88 [4]	—	18	1⅝	11 1/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM211.88 [4]	✓	12	1⅝	11⅞	4½	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175
1½ x 14	ITT214	—	18	1⅝	13 5/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV214	✓	14	1⅝	14	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
1½ x 16	LBV216	✓	14	1⅝	16	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
1⅝ x 9½	LBV1.68/9.5	✓	14	1 11/16	9½	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
1⅝ x 11¼	ITT1.68/11.25	—	18	1 11/16	11 3/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
1⅝ x 11⅞	LBV1.68/11.88	✓	14	1 11/16	11⅞	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
1⅝ x 12	ITT1.68/12	—	18	1 11/16	11 15/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
1⅝ x 14	ITT1.68/14	—	18	1 11/16	13 5/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
1¾ x 7¼	WP1.81/7.25	✓	12	1 13/16	7¼	3½	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	WPU1.81/7.25	✓	12	1 13/16	7¼	4	2 5/16	3-16d	4-16d	6-10d×1½	775	930	4700	4880	—	4165	4165	—	—
1¾ x 9½	ITT9.5	—	18	1 13/16	9 7/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT9.5	—	16	1 13/16	9½	2½	2 5/16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV9.5	✓	14	1 13/16	9½	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B9	✓	12	1 13/16	9½	3	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W9	✓	12	1 13/16	9½	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WP9	✓	12	1 13/16	9½	3½	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	WPU1.81/9.5	✓	12	1 13/16	9½	4	2 5/16	3-16d	4-16d	6-10d×1½	775	930	4700	4880	—	4165	4165	—	—
	ITTM9.5 [4]	—	18	1 13/16	9 5/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM9 [4]	✓	12	1 13/16	9½	4½	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175
1¾ x 11⅞	ITT11.88	—	18	1 13/16	11 13/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT11.88	—	16	1 13/16	11⅞	2½	2 5/16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV11.88	✓	14	1 13/16	11⅞	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B11	✓	12	1 13/16	11⅞	3	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W11	✓	12	1 13/16	11⅞	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WP11	✓	12	1 13/16	11⅞	3½	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	WPU1.81/11.88	✓	12	1 13/16	11⅞	4	2 5/16	3-16d	4-16d	6-10d×1½	775	930	4700	4880	—	4165	4165	—	—
	ITTM11.88 [4]	—	18	1 13/16	11 1/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM11 [4]	✓	12	1 13/16	11⅞	4½	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175

See footnotes on page 78.

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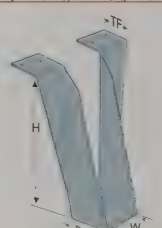
Top Flange Hangers—I-Joists & SCL

SIMPSON Strong-Tie CONNECTORS

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners [1,4,5]			Allowable Loads [2]								
								Solid Header [5]											
				W	H	B	TF	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL	PSL [6]	LSL [6]	DF/SP	SPF	DF I-Joist [6]	Masonry [4]
1¾ x 14	ITT14	—	18	1 13/16	13 5/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT1.81/14	—	16	1 13/16	14	2½	2 5/16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV14	✓	14	1 13/16	14	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B14	✓	12	1 13/16	14	3	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W14	✓	12	1 13/16	14	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WP14	✓	12	1 13/16	14	3½	2 5/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	WPU1.81/14	✓	12	1 13/16	14	4	2 5/16	3-16d	4-16d	6-10d×1½	775	930	4700	4880	—	4165	4165	—	—
	ITTM14 [4]	—	18	1 13/16	13 13/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM14 [4]	✓	12	1 13/16	14	4½	3¾	2-16dDPLX	—	2-10dx1½	—	—	—	—	—	—	—	—	4175
1¾ x 16	ITT16	—	18	1 13/16	15 5/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT1.81/16	—	16	1 13/16	16	2½	2 5/16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV16	✓	14	1 13/16	16	3	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B16	✓	12	1 13/16	16	3	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W16	✓	12	1 13/16	16	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WP16	✓	12	1 13/16	16	3½	2 5/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	ITTM16 [4]	—	18	1 13/16	15 13/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM16 [4]	✓	12	1 13/16	16	4½	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175
2x9½	ITT2.06/9.5	—	18	2 1/16	9 7/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV2.06/9.5	✓	14	2 1/16	9½	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
2x11⅞	ITT2.06/11.88	—	18	2 1/16	11 13/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV2.06/11.88	✓	14	2 1/16	11⅞	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
2x14	ITT2.06/14	—	18	2 1/16	13 5/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV2.06/14	✓	14	2 1/16	14	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
2x16	ITT2.06/16	—	18	2 1/16	15 5/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV2.06/16	✓	14	2 1/16	16	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
2¼ - 2 5/16 x 9¼	ITT359.25	—	18	2⅜	9 3/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	ITTM359.25 [4]	—	18	2⅜	9 3/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	1230	1545
2¼ -2 5/16 x 10	ITT3510	—	18	2⅜	9 15/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV3510	✓	14	2 5/16	10	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B3510	✓	12	2 5/16	10	2½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W3510	✓	12	2 5/16	10	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	ITTM3510 [4]	—	18	2⅜	9 13/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM3510 [4]	✓	12	2 5/16	10	3	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175
2¼ -2 5/16 x 11¼	ITT3511.25	—	18	2⅜	11 13/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	B3511.25	✓	12	2 5/16	11¼	2½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	LBV3511.25	✓	14	2 5/16	11¼	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	—	—
	ITTM3511.25 [4]	—	18	2⅜	11 1/16	2	3½	3-Titen	2-Titen	2-10d×1½	165	165	—	—	—	—	—	—	1610
2¼ - 2 5/16 x 11⅞	ITT3511.88	—	18	2⅜	11 13/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT3511.88	—	16	2 5/16	11⅞	2½	2 5/16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV3511.88	✓	14	2 5/16	11⅞	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B3511.88	✓	12	2 5/16	11⅞	2½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W3511.88	✓	12	2 5/16	11⅞	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	ITTM3511.88 [4]	—	18	2⅜	11 1/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM3511.88 [4]	✓	12	2 5/16	11⅞	3	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175
2¼ - 2 5/16 x 12	W3512	✓	12	2 5/16	12	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WM3512 [4]	✓	12	2 5/16	12	3	3¾	2-16dDPLX	—	2-10d×1½	—	—	—	—	—	—	—	—	4175
2¼ - 2 5/16 x 14	ITT3514	—	18	2⅜	13 5/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT3514	—	16	2 5/16	14	2½	2 5/16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV3514	✓	14	2 5/16	14	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B3514	✓	12	2 5/16	14	2½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W3514	✓	12	2 5/16	14	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WP3514	✓	12	2 5/16	14	2½	2 5/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	ITTM3514 [4]	—	18	2⅜	13 13/16	2½	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM3514 [4]	✓	12	2 5/16	14	3	3¾	2-16dDPLX	—	2-10dx1½	—	—	—	—	—	—	—	—	4175

1. 10d roofer nails (9 ga x 2⅛") may be substituted for 10ds in W hangers with no load reduction required.
2. Loads may not be increased for short-term loading. Uplift loads are based on tests on solid wood headers.
3. Uplift loads are based on Douglas Fir, and have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. ITTM and WM loads listed are based on attachment to a masonry block wall. See page 8 for additional information.
5. When I-joist is used as header, all nails must be 10dx1½.
6. Structural composite lumber is laminated veneer lumber, Parallam® PSL and TimberStrand® LSL.

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Top Flange Hangers—I-Joists & SCL

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1, 4, 5]			Allowable Loads[2]								
								Solid Header[5]		Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
				W	H	B	TF	Top	Face										
2¼ - 2⅝ x 16	MIT3516	—	16	2⅝	16	2½	2⅝	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV3516	✓	14	2⅝	16	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B3516	✓	12	2⅝	16	2½	2½	2-16d	2-16d	2-10dx1½	245	295	1835	2225	—	2415	1500	—	—
	W3516	✓	12	2⅝	16	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WP3516	✓	12	2⅝	16	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	WM3516[4]	✓	12	2⅝	16	3	3¾	2-16dDPLX	—	2-10dx1½	—	—	—	—	—	—	—	—	4175
2¼ - 2⅝ x 18	MIT3518	—	16	2⅝	18	2½	2⅝	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	HIT3518	—	16	2⅝	18	3	3	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—
	B3518	✓	12	2⅝	18	2½	2½	2-16d	4-16d	2-10dx1½	245	295	2315	2225	—	2665	1835	—	—
	W3518	✓	12	2⅝	18	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WP3518	✓	12	2⅝	18	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	WM3518[4]	✓	12	2⅝	18	3	3¾	2-16dDPLX	—	2-10dx1½	—	—	—	—	—	—	—	—	4175
2¼ - 2⅝ x 20	MIT3520	✓	16	2⅝	20	2½	2⅝	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	HIT3520	✓	16	2⅝	20	3	3	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—
	B3520	✓	12	2⅝	20	2½	2½	2-16d	4-16d	2-10dx1½	245	295	2315	2225	—	2665	1835	—	—
	W3520	✓	12	2⅝	20	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WP3520	✓	12	2⅝	20	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	WM3520[4]	✓	12	2⅝	20	3	3¾	2-16dDPLX	—	2-10dx1½	—	—	—	—	—	—	—	—	4175
2¼ - 2⅝ x 22	HIT3522	✓	16	2⅝	22	3	3	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—
	B3522	✓	12	2⅝	22	2½	2½	4-16d	4-16d	4-10dx1½	425	425	2315	2225	—	2665	1835	—	—
	W3522	✓	12	2⅝	22	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WP3522	✓	12	2⅝	22	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
2¼ - 2⅝ x 24	HIT3524	✓	16	2⅝	24	3	3	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—
	B3524	✓	12	2⅝	24	2½	2½	4-16d	4-16d	4-10dx1½	425	425	2315	2225	—	2665	1835	—	—
	W3524	✓	12	2⅝	24	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WP3524	✓	12	2⅝	24	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HB3524	✓	12	2⅝	24	3	2½	4-16d	6-16d	4-10dx1½	490	590	4000	3100	—	4000	2785	—	—
	HW3524	✓	11	2⅝	24	4	2½	4-16d	—	8-10dx1½	—	—	5100	4000	4500	5285	3665	—	—
2¼ - 2⅝ x 26	HIT3526	✓	16	2⅝	26	3	3	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—
	B3526	✓	12	2⅝	26	2½	2½	4-16d	4-16d	4-10dx1½	425	425	2315	2225	—	2665	1835	—	—
	WP3526	✓	12	2⅝	26	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HB3526	✓	12	2⅝	26	3	2½	4-16d	6-16d	4-10dx1½	490	590	4000	3100	—	4000	2785	—	—
	HW3526	✓	11	2⅝	26	4	2½	4-16d	—	8-10dx1½	—	—	5100	4000	4500	5285	3665	—	—
2¼ - 2⅝ x 28	B3528	✓	12	2⅝	28	2½	2½	4-16d	4-16d	4-10dx1½	425	425	2315	2225	—	2665	1835	—	—
	WP3528	✓	12	2⅝	28	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HB3528	✓	12	2⅝	28	3	2½	4-16d	6-16d	4-10dx1½	490	590	4000	3100	—	4000	2785	—	—
	HW3528	✓	11	2⅝	28	4	2½	4-16d	—	8-10dx1½	—	—	5100	4000	4500	5285	3665	—	—
2¼ - 2⅝ x 30	B3530	✓	12	2⅝	30	2½	2½	4-16d	4-16d	4-10dx1½	425	425	2315	2225	—	2665	1835	—	—
	WP3530	✓	12	2⅝	30	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HB3530	✓	12	2⅝	30	3	2½	4-16d	6-16d	6-10dx1½	615	615	4000	3100	—	4000	2785	—	—
	HW3530	✓	11	2⅝	30	4	2½	4-16d	—	8-10dx1½	—	—	5100	4000	4500	5285	3665	—	—
2½-2⅝ x 8	ITT38	—	18	2⅜	8	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
2½ - 2⅝ x 9¼	ITT39.25	—	18	2⅜	9⅜	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV39.25	✓	14	2⅜	9¼	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	WI39.25	✓	12	2⅜	9¼	2	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	ITTM39.25[4]	—	18	2⅜	9⅛	2	3½	3-Titen	2-Titen	2-10dx1½	225	225	—	—	—	—	—	—	1545
2½ - 2⅝ x 9⅜	ITT39.37	—	18	2⅜	9⅝	2	1⅜	4-10d	2-16d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV39.37	✓	14	2⅜	9⅜	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
2½ - 2⅝ x 9½	ITT39.5	—	18	2⅜	9⅛	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1450	1615	1200	1050	—
	LBV39.5	✓	14	2⅜	9½	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	WI39.5	✓	12	2⅜	9½	2	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	ITTM39.5[4]	—	18	2⅜	9⅝	2	3½	3-Titen	2-Titen	2-10dx1½	225	225	—	—	—	—	—	—	1545

See footnotes on opposite page.

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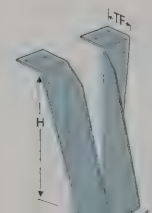
Top Flange Hangers—I-Joists & SCL

SIMPSON Strong-Tie CONNECTORS

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners [1,4,5]			Allowable Loads[2]								
								Solid Header [5]											
				W	H	B	TF	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
2½ - 2⅜ x 10	ITT310	—	18	2⅜	9⅞	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV310	✓	14	2⅜	10	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	WI310	✓	12	2⅜	10	2	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI310	✓	12	2⅜	10	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI310	✓	11	2⅜	10	4	2½	4-16d	—	2-10dx1½	—	—	5100	4000	4500	5285	3665	—	—
	ITTM310[4]	—	18	2⅜	9⅜	2	3½	3-Titen	2-Titen	2-10dx1½	225	225	—	—	—	—	—	—	1545
2½ - 2⅜ x 11¼	LBV311.25	✓	14	2⅜	11¼	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2305	2035	2035	1230	—
	WI311.25	✓	12	2⅜	11¼	2	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
2½ - 2⅜ x 11½	ITT311.5	—	18	2⅜	11⅞	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV311.5	✓	14	2⅜	11½	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	WI311.5	✓	12	2⅜	11½	2	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	ITTM311.5[4]	—	18	2⅜	11⅝	2	3½	3-Titen	2-Titen	2-10dx1½	225	225	—	—	—	—	—	—	1545
2½ - 2⅜ x 11⅞	ITT311.88	—	18	2⅜	11 13⁄16	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV311.88	✓	14	2⅜	11⅞	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	ITTM311.88[4]	—	18	2⅜	11 1⁄16	2	3½	3-Titen	2-Titen	2-10dx1½	225	225	—	—	—	—	—	—	1545
2½ - 2⅜ x 13	ITT313	—	18	2⅜	12 5⁄16	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV313	✓	14	2⅜	13	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
2½ - 2⅜ x 14	ITT314	—	18	2⅜	13 5⁄16	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT314	—	14	2⅜	14	2½	2⅝	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV314	✓	14	2⅜	14	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	WI314	✓	12	2⅜	14	2	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI314	✓	12	2⅜	14	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI314	✓	11	2⅜	14	4	2½	4-16d	—	2-10dx1½	—	—	5100	4000	4500	5285	3665	—	—
	ITTM314[4]	—	18	2⅜	13 13⁄16	2	3½	3-Titen	2-Titen	2-10dx1½	225	225	—	—	—	—	—	—	1545
	WMI314[4]	✓	12	2⅜	14	3	3¾	2-16dDPLX	—	2-10dx1½	—	—	—	—	—	—	—	—	4175
2½ - 2⅜ x 16	ITT316	—	18	2⅜	15 15⁄16	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT316	—	14	2⅜	16	2½	2⅝	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV316	✓	14	2⅜	16	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI316	✓	12	2⅜	16	2½	2½	2-16d	4-16d	2-10dx1½	245	295	2315	2225	—	2665	1835	—	—
	WI316	✓	12	2⅜	16	2	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI316	✓	12	2⅜	16	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI316	✓	11	2⅜	16	4	2½	4-16d	—	2-10dx1½	—	—	5100	4000	4500	5285	3665	—	—
	WMI316[4]	✓	12	2⅜	16	3	3¾	2-16dDPLX	—	2-10dx1½	—	—	—	—	—	—	—	—	4175
2½ - 2⅜ x 18	MIT318	—	14	2⅜	18	2½	2⅝	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	HIT318	—	14	2⅜	18	3	2⅞	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—
	LBV318	✓	14	2⅜	18	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI318	✓	12	2⅜	18	2½	2½	2-16d	4-16d	2-10dx1½	245	295	2315	2225	—	2665	1835	—	—
	WI318	✓	12	2⅜	18	2	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI318	✓	12	2⅜	18	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI318	✓	11	2⅜	18	4	2½	4-16d	—	2-10dx1½	—	—	5100	4000	4500	5285	3665	—	—
	WMI318[4]	✓	12	2⅜	18	3	3¾	2-16dDPLX	—	2-10dx1½	—	—	—	—	—	—	—	—	4175
2½ - 2⅜ x 20	MIT320	✓	14	2⅜	20	2½	2⅝	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	HIT320	✓	14	2⅜	20	3	2⅞	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—
	LBV320	✓	14	2⅜	20	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI320	✓	12	2⅜	20	2½	2½	2-16d	4-16d	2-10dx1½	245	295	2315	2225	—	2665	1835	—	—
	WI320	✓	12	2⅜	20	2	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI320	✓	12	2⅜	20	2½	2⅜	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI320	✓	11	2⅜	20	4	2½	4-16d	—	2-10dx1½	—	—	5100	4000	4500	5285	3665	—	—
	WMI320[4]	✓	12	2⅜	20	3	3¾	2-16dDPLX	—	2-10dx1½	—	—	—	—	—	—	—	—	4175
	HWU320	✓	10	2⅜	20	4¼	2½	4-16d	4-16d	6-10dx1½	765	765	6335	5500	5535	6335	5415	—	—

1. 10d roofer nails (9 ga x 2⅛") may be substituted for 10ds in W hangers with no load reduction required.
2. Loads may not be increased for short-term loading. Uplift loads are based on tests on solid wood headers.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. ITTM and WM loads listed are based on attachment to a masonry block wall. See page 8 for additional information.
5. When I-joist is used as header, all nails must be 10dx1½.
6. Structural composite lumber is laminated veneer lumber, Parallam® PSL and TimberStrand® LSL.

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Top Flange Hangers—I-Joists & SCL

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners [1,4,5]			Allowable Loads[2]								
								Solid Header [5]		Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
				W	H	B	TF	Top	Face										
2½ - 2⅜ x 22	HIT322	✓	14	2⅜	22	3	2⅞	4-16d	6-16d	2-10d×1½	240	290	2550	2050	2500	3050	1950	—	—
	BI322	✓	12	2⅜	22	2½	2½	2-16d	4-16d	2-10d×1½	245	295	2315	2225	—	2665	1835	—	—
	WI322	✓	12	2⅜	22	2	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	HBI322	✓	12	2⅜	22	3	2½	4-16d	4-16d	2-10d×1½	245	295	3335	3100	—	3835	2785	—	—
	WPI322	✓	12	2⅜	22	2½	2⅜	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI322	✓	11	2⅜	22	4	2½	4-16d	—	4-10d×1½	—	—	5100	4000	4500	5285	3665	—	—
	HWU322	✓	10	2⅜	22	4¼	2½	4-16d	4-16d	6-10d×1½	765	765	6335	5500	5535	6335	5415	—	—
2½ - 2⅜ x 24	HIT324	✓	14	2⅜	24	3	2⅞	4-16d	6-16d	2-10d×1½	240	290	2550	2050	2500	3050	1950	—	—
	BI324	✓	12	2⅜	24	2½	2½	2-16d	4-16d	2-10d×1½	245	295	2315	2225	—	2665	1835	—	—
	WI324	✓	12	2⅜	24	2	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	HBI324	✓	12	2⅜	24	3	2½	4-16d	4-16d	2-10d×1½	245	295	3335	3100	—	3835	2785	—	—
	WPI324	✓	12	2⅜	24	2½	2⅜	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI324	✓	11	2⅜	24	4	2½	4-16d	—	4-10d×1½	—	—	5100	4000	4500	5285	3665	—	—
	HWU324	✓	10	2⅜	24	4¼	2½	4-16d	4-16d	6-10d×1½	635	635	6335	5500	5535	6335	5415	—	—
2½ - 2⅜ x 26	HIT326	✓	14	2⅜	26	3	2⅞	4-16d	6-16d	2-10d×1½	240	290	2550	2050	2500	3050	1950	—	—
	BI326	✓	12	2⅜	26	2½	2½	2-16d	4-16d	4-10d×1½	425	425	2315	2225	—	2665	1835	—	—
	WI326	✓	12	2⅜	26	2	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	HBI326	✓	12	2⅜	26	3	2½	4-16d	4-16d	4-10d×1½	490	590	3335	3100	—	3835	2785	—	—
	WPI326	✓	12	2⅜	26	2½	2⅜	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI326	✓	11	2⅜	26	4	2½	4-16d	—	4-10d×1½	—	—	5100	4000	4500	5285	3665	—	—
	HWU326	✓	10	2⅜	26	4¼	2½	4-16d	4-16d	6-10d×1½	635	635	6335	5500	5535	6335	5415	—	—
2½ - 2⅜ x 28	BI328	✓	12	2⅜	28	2½	2½	2-16d	4-16d	4-10d×1½	425	425	2315	2225	—	2665	1835	—	—
	HBI328	✓	12	2⅜	28	3	2½	4-16d	4-16d	4-10d×1½	490	590	3335	3100	—	3835	2785	—	—
	WI328	✓	12	2⅜	28	2	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI328	✓	12	2⅜	28	2½	2⅜	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI328	✓	11	2⅜	28	4	2½	4-16d	—	4-10d×1½	—	—	5100	4000	4500	5285	3665	—	—
	HWU2.62/28	✓	10	2⅝	28	4	2½	4-16d	4-16d	8-10d×1½	1005	1015	6335	5500	5535	6335	5415	—	—
2½ - 2⅜ x 30	BI330	✓	12	2⅜	30	2½	2½	2-16d	4-16d	4-10d×1½	425	425	2315	2225	—	2665	1835	—	—
	HBI330	✓	12	2⅜	30	3	2½	4-16d	4-16d	4-10d×1½	490	590	3335	3100	—	3835	2785	—	—
	WI330	✓	12	2⅜	30	2	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI330	✓	12	2⅜	30	2½	2⅜	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI330	✓	11	2⅜	30	4	2½	4-16d	—	4-10d×1½	—	—	5100	4000	4500	5285	3665	—	—
	HWU2.62/30	✓	10	2⅝	30	4	2½	4-16d	4-16d	8-10d×1½	1005	1015	6335	5500	5535	6335	5415	—	—
2½ LAM	WNP2.6	✓	12	2⅝	5 MIN	2½	2⅜	2-10d	—	2-10d×1½	—	—	—	—	—	2995	—	—	—
	HHB2.6	✓	7	2⅝	7½ MIN	3	2½	4-N20AN	6-N20AN	4-N20AN	885	1060	—	—	—	4330	—	—	—
	GLT2.6	✓	7	2⅝	7½ MIN	5	2½	4-N54A	6-N54A	6-N20AN	1330	1595	—	—	—	7000	—	—	—
	HGLT2.6	✓	7	2⅝	7½ MIN	6	2½	6-N54A	12-N54A	6-N20AN	1330	1595	—	—	—	9395	—	—	—
	HW2.6	✓	11	2⅝	6 MIN	4	2½	4-10d	—	4-10d×1½	—	—	—	—	—	5285	—	—	—
2⅝ x 9½	ITT2.68/9.5	—	18	2 1/16	9 7/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
2⅝ x 11⅞	ITT2.68/11.88	—	18	2 1/16	11⅞	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
2⅝ x 14	ITT2.68/14	—	18	2 1/16	13 15/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT2.68/14	—	14	2 1/16	14	2½	2⅝	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	B2.68/14	✓	12	2 1/16	14	2½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	W2.68/14	✓	12	2 1/16	14	2	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	ITTM2.68/14[4]	—	18	2 1/16	13 13/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
2⅝ x 16	ITT2.68/16	—	18	2 1/16	13 15/16	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT2.68/16	—	14	2 1/16	16	2½	2⅝	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
3 x 9¼	LBV29.25-2	✓	14	3⅛	9¼	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	B29.25-2	✓	12	3⅛	9¼	2½	2½	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WP29.25-2	✓	12	3⅛	9¼	2½	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	HW29.25-2	✓	11	3⅛	9¼	4	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	WM29.25-2[4]	✓	12	3⅛	9¼	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175

See footnotes on opposite page.

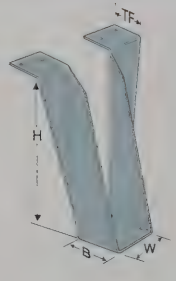
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Top Flange Hangers—I-Joists & SCL

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1, 4, 5]			Allowable Loads[2]								
								Solid Header[5]		Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
				W	H	B	TF	Top	Face										
3 x 9½	MIT29.5-2	—	14	3⅛	9½	2½	2⁵⁄₁₆	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV29.5-2	✓	14	3⅛	9½	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	WP29.5-2	✓	12	3⅛	9½	2½	2⁵⁄₁₆	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HW29.5-2	✓	11	3⅛	9½	4	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	WM29.5-2[4]	✓	12	3⅛	9½	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3 x 11¼	LBV211.25-2	✓	14	3⅛	11¼	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	B211.25-2	✓	12	3⅛	11¼	2½	2½	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WP211.25-2	✓	12	3⅛	11¼	2½	2⁵⁄₁₆	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HW211.25-2	✓	11	3⅛	11¼	4	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	WM211.25-2[4]	✓	12	3⅛	11¼	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3 x 11⅞	MIT211.88-2	—	14	3⅛	11⅞	2½	2⁵⁄₁₆	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV211.88-2	✓	14	3⅛	11⅞	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2305	2035	2035	1230	—
	B211.88-2	✓	12	3⅛	11⅞	2½	2½	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WP211.88-2	✓	12	3⅛	11⅞	2½	2⁵⁄₁₆	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	HW211.88-2	✓	11	3⅛	11⅞	4	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	WM211.88-2[4]	✓	12	3⅛	11⅞	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3 x 14	LBV214-2	✓	14	3⅛	14	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
3 x 16	LBV216-2	✓	14	3⅛	16	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
3.3 LAM	WNP3.3	✓	12	3⅜	5 MIN	2½	2⁵⁄₁₆	2-10d	—	2-10d	—	—	—	—	—	3255	—	—	—
	GLT3.3	✓	7	3⅜	7½ MIN	5	2½	6-N54A	4-N54A	6-N20AN	1330	1595	—	—	—	7000	—	—	—
	HGLT3.3	✓	7	3⅜	7½ MIN	6	2½	6-N54A	12-N54A	6-N20AN	1330	1595	—	—	—	11915	—	—	—
	HW3.3	✓	11	3⅜	6 MIN	4	2½	4-10d	—	4-10d	—	—	—	—	—	5285	—	—	—
3½ x 7¼	W3.56/7.25	✓	12	3⁹⁄₁₆	7³⁄₁₆	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WPU3.56/7.25	✓	12	3⁹⁄₁₆	7¼	3	2⁵⁄₁₆	3-16d	4-16d	6-10dx1½	775	775	4700	4880	—	4165	4165	—	—
3½ x 9¼	ITT49.25	—	18	3⁹⁄₁₆	9³⁄₁₆	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV9.25-2	✓	14	3⁹⁄₁₆	9¼	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI49.25	✓	12	3⁹⁄₁₆	9¼	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WI49.25	✓	12	3⁹⁄₁₆	9¼	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI49.25	✓	12	3⁹⁄₁₆	9¼	2½	2⁵⁄₁₆	2-16d	—	2-10dx1½	—	—	3635	3320	3635	3255	2600	2030	—
	WPU3.56/9.25	✓	12	3⁹⁄₁₆	9¼	3	2⁵⁄₁₆	3-16d	4-16d	6-10dx1½	775	775	4700	4880	—	4165	4165	—	—
	HWI49.25	✓	11	3⁹⁄₁₆	9¼	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU3.56/9.25	✓	10	3⁹⁄₁₆	9¼	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6335	5500	5535	6335	5415	—	—
	GLTV3.56/9.25	✓	7	3⁹⁄₁₆	9¼	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.56/9.25	✓	7	3⁹⁄₁₆	9¼	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	ITTM49.25[4]	—	18	3⁹⁄₁₆	9⁵⁄₁₆	2	3½	3-Titen	2-Titen	2-10dx1½	225	225	—	—	—	—	—	—	1545
3½ x 9⅜	ITT49.37	—	18	3⁹⁄₁₆	9⁵⁄₁₆	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV49.37	✓	14	3⁹⁄₁₆	9⅜	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
3½ x 9½	ITT49.5	—	18	3⁹⁄₁₆	9⁷⁄₁₆	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT49.5	—	14	3⁹⁄₁₆	9½	2½	2⁵⁄₁₆	4-16d	2-16d	2-10dx1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV9.5-2	✓	14	3⁹⁄₁₆	9½	2¼	2½	4-16d	2-16d	2-10dx1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI49.5	✓	12	3⁹⁄₁₆	9½	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WI49.5	✓	12	3⁹⁄₁₆	9½	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—
	W3.56/9.5	✓	12	3⁹⁄₁₆	9½	2½	2½	2-16d	—	2-10dx1½	—	—	2335	1950	2335	1765	1435	—	—

1. 10d roofer nails (9 ga x 2⅛") may be substituted for 10ds in W hangers with no load reduction required.
2. Loads may not be increased for short-term loading. Uplift loads are based on tests on solid wood headers.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. ITTM and WM loads listed are based on attachment to a masonry block wall. See page 8 for additional information.
5. When I-joist is used as header, all nails must be 10dx1½.
6. Structural composite lumber is laminated veneer lumber. Parallam® PSL and TimberStrand® LSL.

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Top Flange Hangers - I-Joists & SCL

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1,4,5]			Allowable Loads[2]								
								Solid Header[5]		Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
				W	H	B	TF	Top	Face										
3½ x 9½	WPI49.5	✓	12	3 9/16	9½	2½	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	WPU3.56/9.5	✓	12	3 9/16	9½	3	2 5/16	3-16d	4-16d	6-10d×1½	775	775	4700	4880	—	4165	4165	—	—
	HWI49.5	✓	11	3 9/16	9½	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU3.56/9.5	✓	10	3 9/16	9½	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6335	5500	5535	6335	5415	—	—
	GLTV3.59	✓	7	3 9/16	9½	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.59	✓	7	3 9/16	9½	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	ITTM49.5[4]	—	18	3 9/16	9 5/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM3.56/9.5[4]	✓	12	3 9/16	9½	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3½ x 10	ITT410	—	18	3 9/16	9 15/16	2	1⅞	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV410	✓	14	3 9/16	10	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	WI410	✓	12	3 9/16	10	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI410	✓	12	3 9/16	10	2½	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	HWI410	✓	11	3 9/16	10	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	ITTM410[4]	—	18	3 9/16	9 13/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
3½ x 11¼	ITT411.25	—	18	3 9/16	11 3/16	2	1⅞	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV11.25-2	✓	14	3 9/16	11¼	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI411.25	✓	12	3 9/16	11¼	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WI411.25	✓	12	3 9/16	11¼	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI411.25	✓	12	3 9/16	11¼	2½	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	WPU3.56/11.25	✓	12	3 9/16	11¼	3	2 5/16	3-16d	4-16d	6-10d×1½	775	775	4700	4880	—	4165	4165	—	—
	HWI411.25	✓	11	3 9/16	11¼	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU3.56/11.25	✓	10	3 9/16	11¼	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6335	5500	5535	6335	5415	—	—
	GLTV3.56/11.25	✓	7	3 9/16	11¼	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.56/11.25	✓	7	3 9/16	11¼	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	ITTM411.25[4]	—	18	3 9/16	11 1/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
3½ x 11½	ITT411.5	—	18	3 9/16	11 1/16	2	1⅞	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV411.5	✓	14	3 9/16	11½	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	WI411.5	✓	12	3 9/16	11½	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	GLTV3.56/11.5	✓	7	3 9/16	11½	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.56/11.5	✓	7	3 9/16	11½	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	ITTM411.5[4]	—	18	3 9/16	11 5/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
3½ x 11⅞	ITT411.88	—	18	3 9/16	11 13/16	2	1⅞	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT411.88	—	14	3 9/16	11⅞	2½	2 5/16	4-16d	2-16d	2-10d×1½	240	290	2650	2000	1565	2400	1565	1230	—
	LBV11.88-2	✓	14	3 9/16	11⅞	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI411.88	✓	12	3 9/16	11⅞	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	W3.56/11.88	✓	12	3 9/16	11⅞	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI411.88	✓	12	3 9/16	11⅞	2½	2 3/16	2-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	WPU3.56/11.88	✓	12	3 9/16	11⅞	3	2 5/16	3-16d	4-16d	6-10d×1½	775	775	4700	4880	—	4165	4165	—	—
	HWI411.88	✓	11	3 9/16	11⅞	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU3.56/11.88	✓	10	3 9/16	11⅞	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6335	5500	5535	6335	5415	—	—
	GLTV3.511	✓	7	3 9/16	11⅞	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.511	✓	7	3 9/16	11⅞	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	ITTM411.88[4]	—	18	3 9/16	11 11/16	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WM3.56/11.88[4]	✓	12	3 9/16	11⅞	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3½ x 12	ITT412	—	18	3 9/16	11 15/16	2	1⅞	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV412	✓	14	3 9/16	12	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI412	✓	12	3 9/16	12	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WI412	✓	12	3 9/16	12	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—

See footnotes on opposite page.

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Top Flange Hangers - I-Joists & SCL

SIMPSON Strong-Tie CONNECTORS

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1,4,5]			Allowable Loads[2]								
								Solid Header[5]		Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
				W	H	B	TF	Top	Face										
3½ x 12	WPI412	✓	12	3⁹⁄₁₆	12	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WPU3.56/12	✓	12	3⁹⁄₁₆	12	3	2⁵⁄₁₆	3-16d	4-16d	6-10d×1½	775	775	4700	4880	—	4165	4165	—	—
	HWI412	✓	11	3⁹⁄₁₆	12	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV3.512	✓	7	3⁹⁄₁₆	12	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.512	✓	7	3⁹⁄₁₆	12	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	ITTM412[4]	—	18	3⁹⁄₁₆	11¹³⁄₁₆	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WMI412[4]	✓	12	3⁹⁄₁₆	12	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3½ x 12½	ITT412.5	—	18	3⁹⁄₁₆	12½	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV412.5	—	14	3⁹⁄₁₆	12½	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
3½ x 13	ITTM412.5	—	18	3⁹⁄₁₆	12½	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	ITT413	—	18	3⁹⁄₁₆	12¹⁵⁄₁₆	2	1⅜	4-10d	2-10d	2-10dx1½	245	285	1450	1300	1435	1615	1200	1050	—
	LBV413	✓	14	3⁹⁄₁₆	13	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
3½ x 14	ITT414	—	18	3⁹⁄₁₆	13¹⁵⁄₁₆	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT414	—	14	3⁹⁄₁₆	14	2½	2⁵⁄₁₆	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV14-2	✓	14	3⁹⁄₁₆	14	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI414	✓	12	3⁹⁄₁₆	14	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WI414	✓	12	3⁹⁄₁₆	14	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI414	✓	12	3⁹⁄₁₆	14	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WPU3.56/14	✓	12	3⁹⁄₁₆	14	3	2⁵⁄₁₆	3-16d	4-16d	6-10d×1½	775	775	4700	4880	—	4165	4165	—	—
	HWI414	✓	11	3⁹⁄₁₆	14	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU3.56/14	✓	10	3⁹⁄₁₆	14	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6335	5500	5535	6335	5415	—	—
	GLTV3.514	✓	7	3⁹⁄₁₆	14	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.514	✓	7	3⁹⁄₁₆	14	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	ITTM414[4]	—	18	3⁹⁄₁₆	13¹³⁄₁₆	2	3½	3-Titen	2-Titen	2-10d×1½	225	225	—	—	—	—	—	—	1545
	WMI414[4]	✓	12	3⁹⁄₁₆	14	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3½ x 16	ITT416	—	18	3⁹⁄₁₆	15¹⁵⁄₁₆	2	1⅜	4-10d	2-10d	2-10d×1½	245	285	1450	1300	1435	1615	1200	1050	—
	MIT416	—	14	3⁹⁄₁₆	16	2½	2⁵⁄₁₆	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV416	✓	14	3⁹⁄₁₆	16	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI416	✓	12	3⁹⁄₁₆	16	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WI416	✓	12	3⁹⁄₁₆	16	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI416	✓	12	3⁹⁄₁₆	16	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WPU3.56/16	✓	12	3⁹⁄₁₆	16	3	2⁵⁄₁₆	3-16d	4-16d	6-10d×1½	775	775	4700	4880	—	4165	4165	—	—
	HWI416	✓	11	3⁹⁄₁₆	16	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU3.56/16	✓	10	3⁹⁄₁₆	16	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6335	5500	5535	6335	5415	—	—
	GLTV3.516	✓	7	3⁹⁄₁₆	16	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.516	✓	7	3⁹⁄₁₆	16	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WMI416[4]	✓	12	3⁹⁄₁₆	16	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3½ x 18	MIT418	—	14	3⁹⁄₁₆	18	2½	2⁵⁄₁₆	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	HIT418	—	14	3⁹⁄₁₆	18	3	2⅝	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—
	LBV418	✓	14	3⁹⁄₁₆	18	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI418	✓	12	3⁹⁄₁₆	18	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WI418	✓	12	3⁹⁄₁₆	18	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI418	✓	12	3⁹⁄₁₆	18	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WPU3.56/18	✓	12	3⁹⁄₁₆	18	3	2⁵⁄₁₆	3-16d	4-16d	6-10d×1½	775	775	4700	4880	—	4165	4165	—	—
	HWI418	✓	11	3⁹⁄₁₆	18	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU3.56/18	✓	10	3⁹⁄₁₆	18	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6335	5500	5535	6335	5415	—	—
	GLTV3.518	✓	7	3⁹⁄₁₆	18	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.518	✓	7	3⁹⁄₁₆	18	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WMI418[4]	✓	12	3⁹⁄₁₆	18	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3½ x18¾	GLTV3.56/18.75	✓	7	3⁹⁄₁₆	18¾	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.56/18.75	✓	7	3⁹⁄₁₆	18¾	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—



1. 10d roofer nails (9 ga x 2⅛") may be substituted for 10ds in W hangers with no load reduction required.
2. Loads may not be increased for short-term loading. Uplift loads are based on tests on solid wood headers.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. ITTM and WM loads listed are based on attachment to a masonry block wall. See page 8 for additional information.
5. When I-joist is used as header, all nails must be 10dx1½.
6. Structural composite lumber is laminated veneer lumber. Parallam® PSL and TimberStrand® LSL.

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Top Flange Hangers - I-Joists & SCL

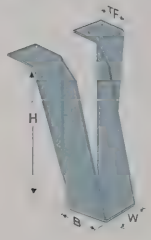
Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1,4,5]			Allowable Loads[2]								
								Solid Header[5]											
				W	H	B	TF	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
3½ x 20	MIT420	—	14	3⁹⁄₁₆	20	2½	2⁵⁄₁₆	4-16d	2-16d	2-10d×1½	240	290	2650	2000	1565	2400	1565	1230	—
	HIT420	—	14	3⁹⁄₁₆	20	3	2⅜	4-16d	6-16d	2-10dx1½	240	290	2550	2050	2500	3050	1950	—	—
	LBV420	✓	14	3⁹⁄₁₆	20	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI420	✓	12	3⁹⁄₁₆	20	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WI420	✓	12	3⁹⁄₁₆	20	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI420	✓	12	3⁹⁄₁₆	20	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WPU3.56/20	✓	12	3⁹⁄₁₆	20	3	2⁵⁄₁₆	3-16d	4-16d	6-10d×1½	485	485	4700	4880	—	4165	4165	—	—
	HWI420	✓	11	3⁹⁄₁₆	20	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU3.56/20	✓	10	3⁹⁄₁₆	20	3¼	2½	4-16d	4-16d	6-10d	765	765	6335	5500	5535	6335	5415	—	—
	GLTV3.520	✓	7	3⁹⁄₁₆	20	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV3.520	✓	7	3⁹⁄₁₆	20	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WMI420[4]	✓	12	3⁹⁄₁₆	20	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
3½ x 22	HIT422	—	14	3⁹⁄₁₆	22	3	2⅜	4-16d	6-16d	2-10d×1½	240	290	2550	2050	2500	3050	1950	—	—
	BI422	✓	12	3⁹⁄₁₆	22	2½	2½	2-16d	4-16d	4-10d	425	510	2315	2225	—	2665	1835	—	—
	WI422	✓	12	3⁹⁄₁₆	22	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	WPI422	✓	12	3⁹⁄₁₆	22	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WPU3.56/22	✓	12	3⁹⁄₁₆	22	3	2⁵⁄₁₆	3-16d	4-16d	6-10d×1½	485	485	4700	4880	—	4165	4165	—	—
	HBI422	✓	11	3⁹⁄₁₆	22	3	2½	4-16d	4-16d	4-10d	615	615	3335	3100	—	3835	2785	—	—
	HWI422	✓	11	3⁹⁄₁₆	22	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
3½ x 24	HIT424	—	14	3⁹⁄₁₆	24	3	2⅜	4-16d	6-16d	2-10d×1½	240	290	2550	2050	2500	3050	1950	—	—
	BI424	✓	12	3⁹⁄₁₆	24	2½	2½	2-16d	4-16d	4-10d	425	510	2315	2225	—	2665	1835	—	—
	WI424	✓	12	3⁹⁄₁₆	24	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	HBI424	✓	12	3⁹⁄₁₆	24	3	2½	4-16d	4-16d	4-10d	615	615	3335	3100	—	3835	2785	—	—
	WPI424	✓	12	3⁹⁄₁₆	24	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WPU3.56/24	✓	12	3⁹⁄₁₆	24	3	2⁵⁄₁₆	3-16d	4-16d	6-10d×1½	315	315	4700	4880	—	4165	4165	—	—
	HWI424	✓	11	3⁹⁄₁₆	24	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
3½ x 26	HIT426	—	14	3⁹⁄₁₆	26	3	2⅜	4-16d	6-16d	2-10d×1½	240	290	2550	2050	2500	3050	1950	—	—
	BI426	✓	12	3⁹⁄₁₆	26	2½	2½	2-16d	4-16d	4-10d	425	510	2315	2225	—	2665	1835	—	—
	WI426	✓	12	3⁹⁄₁₆	26	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	HBI426	✓	12	3⁹⁄₁₆	26	3	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI426	✓	12	3⁹⁄₁₆	26	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WPU3.56/26	✓	12	3⁹⁄₁₆	26	3	2⁵⁄₁₆	3-16d	4-16d	6-10d×1½	315	315	4700	4880	—	4165	4165	—	—
	HWI426	✓	11	3⁹⁄₁₆	26	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
3½ x 28	BI428	✓	12	3⁹⁄₁₆	28	2½	2½	2-16d	4-16d	4-10d	425	510	2315	2225	—	2665	1835	—	—
	WI428	✓	12	3⁹⁄₁₆	28	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	HBI428	✓	12	3⁹⁄₁₆	28	3	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI428	✓	12	3⁹⁄₁₆	28	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WPU3.56/28	✓	12	3⁹⁄₁₆	28	3	2⁵⁄₁₆	3-16d	4-16d	6-10d×1½	315	315	4700	4880	—	4165	4165	—	—
	HWI428	✓	11	3⁹⁄₁₆	28	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
3½ x 30	BI430	✓	12	3⁹⁄₁₆	30	2½	2½	2-16d	4-16d	4-10d	425	510	2315	2225	—	2665	1835	—	—
	WI430	✓	12	3⁹⁄₁₆	30	2½	2½	2-16d	—	2-10d×1½	—	—	2335	1950	2335	1765	1435	—	—
	HBI430	✓	12	3⁹⁄₁₆	30	3	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI430	✓	12	3⁹⁄₁₆	30	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI430	✓	11	3⁹⁄₁₆	30	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
3½ x 32	HBI432	✓	12	3⁹⁄₁₆	32	3	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI432	✓	12	3⁹⁄₁₆	32	2½	2³⁄₁₆	2-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI432	✓	11	3⁹⁄₁₆	32	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
4x 9½	LBV4.12/9.5	—	14	4⅛	9½	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
4x11⅞	LBV4.12/11.88	—	14	4⅛	11⅞	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
4x14	LBV4.12/14	—	14	4⅛	14	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
4x16	LBV4.12/16	—	14	4⅛	16	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
4½ - 4⅝ x 9¼	LBV359.25-2	✓	14	4¾	9¼	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	WP359.25-2	✓	12	4¾	9¼	2½	2⁵⁄₁₆	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—

See footnotes on opposite page.

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Top Flange Hangers - I-Joists & SCL

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1,4,5]			Allowable Loads[2]							
								Solid Header[5]										
				W	H	B	TF	Top	Face	Joist	Uplift (133)	Uplift 160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
4½ - 4⅝ x 9½	LBV359.5-2	✓	14	4¾	9½	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	WP359.5-2	✓	12	4¾	9½	2½	2⁵⁄₁₆	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
4½ - 4⅝ x10	B3510-2	✓	12	4¾	10	2½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	HB3510-2	✓	12	4¾	10	2½	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WP3510-2	✓	12	4¾	10	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WM3510-2[4]	✓	12	4¾	10	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
4½ - 4⅝ x 11¼	LBV3511.25-2	✓	14	4¾	11¼	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	WP3511.25-2	✓	12	4¾	11¼	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
4½ - 4⅝ x 11⅞	MIT3511.88-2	—	14	4¾	11⅞	2½	2⁵⁄₁₆	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV3511.88-2	✓	14	4¾	11⅞	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	B3511.88-2	✓	12	4¾	11⅞	2½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	WP3511.88-2	✓	12	4¾	11⅞	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WM3511.88-2[4]	✓	12	4¾	11⅞	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
4½ - 4⅝ x 12	B3512-2	✓	12	4¾	12	2½	2½	2-16d	2-16d	2-10d×1½	245	295	1835	2225	—	2415	1500	—	—
	WP3512-2	✓	12	4¾	12	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HB3512-2	✓	12	4¾	12	2½	2½	4-16d	6-16d	4-10d	615	615	3335	3100	—	4000	2785	—	—
	HW3512-2	✓	11	4¾	12	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	WM3512-2[4]	✓	12	4¾	12	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
4½ - 4⅝ x 14	MIT3514-2	—	14	4¾	14	2½	2⁵⁄₁₆	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV3514-2	✓	14	4¾	14	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	B3514-2	✓	12	4¾	14	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WP3514-2	✓	12	4¾	14	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HB3514-2	✓	12	4¾	14	2½	2½	4-16d	6-16d	4-10d	615	615	4000	3100	—	4000	2785	—	—
	HW3514-2	✓	11	4¾	14	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	WM3514-2[4]	✓	12	4¾	14	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
4½ - 4⅝ x 16	LBV3516-2	✓	14	4¾	16	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	WP3516-2	✓	12	4¾	16	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HB3516-2	✓	12	4¾	16	2½	2½	4-16d	6-16d	4-10d	615	615	4000	3100	—	4000	2785	—	—
	HW3516-2	✓	11	4¾	16	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	WM3516-2	✓	12	4¾	16	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
4½ - 4⅝ x 18	WP3518-2	✓	12	4¾	18	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HB3518-2	✓	12	4¾	18	2½	2½	4-16d	6-16d	4-10d	615	615	4000	3100	—	4000	2785	—	—
	HW3518-2	✓	11	4¾	18	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	WM3518-2[4]	✓	12	4¾	18	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
4½ - 4⅝ x 20	WP3520-2	✓	12	4¾	20	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HB3520-2	✓	12	4¾	20	2½	2½	4-16d	6-16d	4-10d	615	615	4000	3100	—	4000	2785	—	—
	HW3520-2	✓	11	4¾	20	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV3520-2	✓	7	4¾	20	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	WM3520-2[4]	✓	12	4¾	20	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
4½ - 4⅝ x 22	WP3522-2	✓	12	4¾	22	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HW3522-2	✓	11	4¾	22	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV3522-2	✓	7	4¾	22	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
4½ - 4⅝ x 24	WP3524-2	✓	12	4¾	24	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HW3524-2	✓	11	4¾	24	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV3524-2	✓	7	4¾	24	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
4½ - 4⅝ x 26	WP3526-2	✓	12	4¾	26	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3635	3255	2600	2030	—
	HW3526-2	✓	11	4¾	26	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
4½ - 4⅝ x 28	WP3528-2	✓	12	4¾	28	2½	2⁵⁄₁₆	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HW3528-2	✓	11	4¾	28	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—



1. 10d roofer nails (9 ga x 2⅛") may be substituted for 10ds in W hangers with no load reduction required.
2. Loads may not be increased for short-term loading. Uplift loads are based on tests on solid wood headers.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. ITTM and WM loads listed are based on attachment to a masonry block wall. See page 8 for additional information.
5. When I-joist is used as header, all nails must be 10dx1½.
6. Structural composite lumber is laminated veneer lumber, Parallam® PSL and TimberStrand® LSL.

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Top Flange Hangers - I-Joists & SCL

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1,4,5]			Allowable Loads[2]								
								Solid Header[5]											
				W	H	B	TF	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
4½ - 4⅝ x 30	WP3530-2	✓	12	4¾	30	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HW3530-2	✓	11	4¾	30	2½	2½	4-16d	—	6-10d	—	—	5100	4000	4500	5285	3665	—	—
5 x 9¼	LBV39.25-2	✓	14	5⅛	9¼	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
5 x 9½	MIT39.5-2	—	14	5⅛	9½	2½	2⅝16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV39.5-2	✓	14	5⅛	9½	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI39.5-2	✓	12	5⅛	9½	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI39.5-2	✓	12	5⅛	9½	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
5 x 10	LBV310-2	✓	14	5⅛	10	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI310-2	✓	12	5⅛	10	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI310-2	✓	12	5⅛	10	2½	2⅝16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HWI310-2	✓	11	5⅛	10	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
5 x 11¼	LBV311.25-2	✓	14	5⅛	11¼	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
5 x 11½	LBV311.5-2	✓	14	5⅛	11½	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI311.5-2	✓	12	5⅛	11½	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI311.5-2	✓	12	5⅛	11½	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
5 x 11⅞	MIT311.88-2	—	14	5⅛	11⅞	2½	2⅝16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV311.88-2	✓	14	5⅛	11⅞	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI311.88-2	✓	12	5⅛	11⅞	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI311.88-2	✓	12	5⅛	11⅞	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
5 x 12	LBV312-2	✓	14	5⅛	12	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI312-2	✓	12	5⅛	12	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI312-2	✓	12	5⅛	12	2½	2⅝16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HWI312-2	✓	11	5⅛	12	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
5 x 14	MIT314-2	—	14	5⅛	14	2½	2⅝16	4-16d	2-16d	2-10d×1½	240	290	2550	2000	1565	2400	1565	1230	—
	LBV314-2	✓	14	5⅛	14	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI314-2	✓	12	5⅛	14	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	
	WPI314-2	✓	12	5⅛	14	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI314-2	✓	11	5⅛	14	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
5 x 16	LBV316-2	✓	14	5⅛	16	2¼	2½	4-16d	2-16d	2-10d×1½	240	290	2565	2360	2035	2035	2035	1230	—
	BI316-2	✓	12	5⅛	16	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	HBI316-2	✓	12	5⅛	16	2½	2½	4-16d	4-16d	2-10d	310	375	3335	3100	—	3835	2785	—	—
	WPI316-2	✓	12	5⅛	16	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI316-2	✓	11	5⅛	16	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
5 x 18	BI318-2	✓	12	5⅛	18	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI318-2	✓	12	5⅛	18	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HBI318-2	✓	12	5⅛	18	2½	2½	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HWI318-2	✓	11	5⅛	18	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
5 x 20	BI320-2	✓	12	5⅛	20	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI320-2	✓	12	5⅛	20	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HBI320-2	✓	12	5⅛	20	2½	2½	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HWI320-2	✓	11	5⅛	20	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
5 x 22	BI322-2	✓	12	5⅛	22	2⅜	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI322-2	✓	12	5⅛	22	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HBI322-2	✓	12	5⅛	22	2½	2½	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HWI322-2	✓	11	5⅛	22	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
5 x 24	BI324-2	✓	12	5⅛	24	2⅜1	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI324-2	✓	12	5⅛	24	2½	2⅝16	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HBI324-2	✓	12	5⅛	24	2½	2½	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HWI324-2	✓	11	5⅛	24	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	

See footnotes on opposite page.

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Top Flange Hangers - I-Joists & SCL

SIMPSON StrongTie CONNECTORS

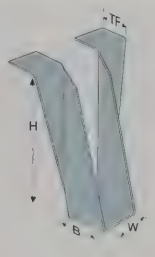
Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1,4,5]			Allowable Loads[2]								
								Solid Header[5]											
				W	H	B	TF	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
5 x 26	WPI326-2	✓	12	5 1/8	26	2 1/2	2 5/16	3-16d	—	2-10dx1 1/2	—	—	3635	3320	3650	3255	2600	2030	—
	HBI326-2	✓	12	5 1/8	26	2 1/2	2 1/2	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HWI326-2	✓	11	5 1/8	26	2 1/2	2 1/2	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
5 1/4 x 7 1/4	WPU5.50/7.25	✓	12	5 1/2	7 1/4	3	2 5/16	3-16d	4-16d	6-10d	910	935	4700	4880	—	4165	4165	—	—
5 1/4 x 9 1/4	LBV5.31/9.25	✓	14	5 5/16	9 1/4	2 1/4	2 1/2	4-16d	2-16d	2-10dx1 1/2	240	290	2565	2360	2035	2035	2035	1230	—
	B5.31/9.25	✓	12	5 5/16	9 1/4	2 1/2	2 1/2	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WP5.31/9.25	✓	12	5 5/16	9 1/4	2 1/2	2 5/16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HWU5.50/9.25	✓	10	5 1/2	9 1/4	3 1/4	2 1/2	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV5.50/9.25	✓	7	5 9/16	9 1/4	5	2 7/8	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	WM5.31/9.25[4]	✓	12	5 5/16	9 1/4	2 1/2	3 3/4	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
5 1/4 x 9 1/2	LBV5.31/9.5	✓	14	5 5/16	9 1/2	2 1/4	2 1/2	4-16d	2-16d	2-10dx1 1/2	240	290	2565	2360	2035	2035	2035	1230	—
	WP5.50/9.5	✓	12	5 1/2	9 1/2	2 1/2	2 5/16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HB5.50/9.5	✓	12	5 1/2	9 1/2	2 1/2	2 1/2	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HWU5.50/9.5	✓	10	5 1/2	9 1/2	3 1/4	2 1/2	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV5.59	✓	7	5 9/16	9 1/2	5	2 7/8	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV5.59	✓	7	5 9/16	9 1/2	6	2 7/8	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WM5.50/9.5[4]	✓	12	5 1/2	9 1/2	2 1/2	3 3/4	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
5 1/4 x 10	B5.50/10	✓	12	5 1/2	10	2 1/2	2 1/2	4-16d	4-16d	4-16d	425	425	2315	2225	—	2665	1835	—	—
	WP5.50/10	✓	12	5 1/2	10	2 1/2	2 5/16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
5 1/4 x 11 1/4	LBV5.31/11.25	✓	14	5 5/16	11 1/4	2 1/4	2 1/2	4-16d	2-16d	2-10dx1 1/2	240	290	2565	2360	2035	2035	2035	1230	—
	B5.31/11.25	✓	12	5 5/16	11 1/4	2 1/2	2 1/2	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WP5.31/11.25	✓	12	5 5/16	11 1/4	2 1/2	2 5/16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HWU5.50/11.25	✓	10	5 1/2	11 1/4	3 1/4	2 1/2	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV5.50/11.25	✓	7	5 9/16	11 1/4	5	2 7/8	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	WM5.31/11.25[4]	✓	12	5 5/16	11 1/4	2 1/2	3 3/4	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
5 1/4 x 11 7/8	LBV5.31/11.88	✓	14	5 5/16	11 7/8	2 1/4	2 1/2	4-16d	2-16d	2-10dx1 1/2	240	290	2565	2360	2035	2035	2035	1230	—
	WP5.50/11.88	✓	12	5 1/2	11 7/8	2 1/2	2 5/16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HB5.50/11.88	✓	12	5 1/2	11 7/8	2 1/2	2 1/2	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HWU5.50/11.88	✓	10	5 1/2	11 7/8	3 1/4	2 1/2	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV5.511	✓	7	5 9/16	11 7/8	5	2 7/8	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV5.511	✓	7	5 9/16	11 7/8	6	2 7/8	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WM5.50/11.88[4]	✓	12	5 1/2	11 7/8	2 1/2	3 3/4	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
5 1/4 x 12	LBV5.31/12	✓	14	5 5/16	12	2 1/4	2 1/2	4-16d	2-16d	2-10dx1 1/2	240	290	2565	2360	2035	2035	2035	1230	—
	B5.31/12	✓	12	5 5/16	12	2 1/2	2 1/2	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	HWU5.50/12	✓	10	5 1/2	12	3 1/4	2 1/2	4-16d	4-16d	6-10dx1 1/2	810	910	6000	5500	5535	6000	5415	—	—
	WP5.31/12	✓	12	5 5/16	12	2 1/2	2 5/16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	GLTV5.512	✓	7	5 9/16	12	5	2 7/8	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV5.512	✓	7	5 9/16	12	6	2 7/8	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WM5.31/12[4]	✓	12	5 5/16	12	2 1/2	3 3/4	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
5 1/4 x 14	LBV5.31/14	✓	14	5 5/16	14	2 1/4	2 1/2	4-16d	2-16d	2-10dx1 1/2	240	290	2565	2360	2035	2035	2035	1230	—
	B5.31/14	✓	12	5 5/16	14	2 1/2	2 1/2	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WP5.31/14	✓	12	5 5/16	14	2 1/2	2 5/16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HB5.50/14	✓	12	5 1/2	14	2 1/2	2 1/2	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HWU5.50/14	✓	10	5 1/2	14	3 1/4	2 1/2	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV5.514	✓	7	5 9/16	14	5	2 7/8	4-16d	6-16d	6-16d	1370	1640	7500	7400	5700	7000	—	—	—
	HGLTV5.514	✓	7	5 9/16	14	6	2 7/8	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WM5.31/14[4]	✓	12	5 5/16	14	2 1/2	3 3/4	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
5 1/4 x 16	LBV5.31/16	✓	14	5 5/16	16	2 1/4	2 1/2	4-16d	2-16d	2-10dx1 1/2	240	290	2565	2360	2035	2035	2035	1230	—
	B5.31/16	✓	12	5 5/16	16	2 1/2	2 1/2	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WP5.31/16	✓	12	5 5/16	16	2 1/2	2 5/16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HB5.50/16	✓	12	5 1/2	16	2 1/2	2 1/2	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HWU5.50/16	✓	10	5 1/2	16	3 1/4	2 1/2	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV5.516	✓	7	5 9/16	16	5	2 7/8	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV5.516	✓	7	5 9/16	16	6	2 7/8	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WM5.31/16[4]	✓	12	5 5/16	16	2 1/2	3 3/4	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
5 1/4 x 18	B5.31/18	✓	12	5 5/16	18	2 1/2	2 1/2	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WP5.31/18	✓	12	5 5/16	18	2 1/2	2 5/16	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HB5.50/18	✓	12	5 1/2	18	2 1/2	2 1/2	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HW5.50/18	✓	11	5 1/2	18	2 1/2	2 1/2	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU5.50/18	✓	10	5 1/2	18	3 1/4	2 1/2	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV5.518	✓	7	5 9/16	18	5	2 7/8	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV5.518	✓	7	5 9/16	18	6	2 7/8	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WM5.31/18[4]	✓	12	5 5/16	18	2 1/2	3 3/4	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175

See footnotes on opposite page.

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Top Flange Hangers - I-Joists & SCL

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1,4,5]			Allowable Loads[2]								
								Solid Header[5]											
				W	H	B	TF	Top	Face	Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
5¼x18¾	GLTV5.50/18.75	✓	7	5½	18¾	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV5.50/18.75	✓	7	5½	18¾	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
5¼ x 20	B5.31/20	✓	12	5⅝	20	2½	2½	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WP5.31/20	✓	12	5⅝	20	2½	2⅝	3-16d	—	2-10d	—	—	3635	3320	3650	3255	2600	2030	—
	HB5.50/20	✓	12	5½	20	2½	2½	4-16d	6-16d	4-16d	615	615	4000	3100	—	4000	2785	—	—
	HW5.50/20	✓	11	5½	20	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU5.50/20	✓	10	5½	20	3¼	2½	4-16d	4-16d	6-10d	765	765	6000	5500	5535	6000	5415	—	—
	GLTV5.520	✓	7	5⅝	20	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV5.520	✓	7	5⅝	20	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WM5.31/20[4]	✓	12	5⅝	20	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
7 x 7¼	HWU7.12/7.25	✓	10	7⅛	7¼	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
7 x 9¼	BI49.25-2	✓	12	7⅛	9¼	2½	2½	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WPI49.25-2	✓	12	7⅛	9¼	2½	2⅝	3-16d	—	2-10dx1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI49.25-2	✓	11	7⅛	9¼	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU7.12/9.25	✓	10	7⅛	9¼	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV49.25-2	✓	7	7⅛	9¼	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
7 x 9½	BI49.5-2	✓	12	7⅛	9½	2½	2½	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WPI49.5-2	✓	12	7⅛	9½	2½	2⅝	3-16d	—	2-10dx1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI49.5-2	✓	11	7⅛	9½	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU7.12/9.5	✓	10	7⅛	9½	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV49.5-2	✓	7	7⅛	9½	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	WMI49.5-2[4]	✓	12	7⅛	9½	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
7 x 10	BI410-2	✓	12	7⅛	10	2½	2½	2-16d	2-16d	2-10d	310	375	1835	2225	—	2415	1500	—	—
	WPI410-2	✓	12	7⅛	10	2½	2⅝	3-16d	—	2-10dx1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI410-2	✓	11	7⅛	10	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	WMI410-2[4]	✓	12	7⅛	10	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
7 x 11¼	BI411.25-2	✓	12	7⅛	11¼	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI411.25-2	✓	12	7⅛	11¼	2½	2⅝	3-16d	—	2-10dx1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI411.25-2	✓	11	7⅛	11¼	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU7.12/11.25	✓	10	7⅛	11¼	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV411.25-2	✓	7	7⅛	11¼	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV411.25-2	✓	7	7⅛	11¼	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WMI411.25-2[5]	✓	12	7⅛	11¼	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
7 x 11½	BI411.5-2	✓	12	7⅛	11½	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI411.5-2	✓	12	7⅛	11½	2½	2⅝	3-16d	—	2-10dx1½	—	—	3635	3320	3650	3255	2600	2030	—
7 x 11⅞	BI411.88-2	✓	12	7⅛	11⅞	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI411.88-2	✓	12	7⅛	11⅞	2½	2⅝	3-16d	—	2-10dx1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI411.88-2	✓	11	7⅛	11⅞	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU7.12/11.88	✓	10	7⅛	11⅞	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV411.88-2	✓	7	7⅛	11⅞	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV411.88-2	✓	7	7⅛	11⅞	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WMI411.88-2[4]	✓	12	7⅛	11⅞	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
7 x 12	BI412-2	✓	12	7⅛	12	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	WPI412-2	✓	12	7⅛	12	2½	2⅝	3-16d	—	2-10dx1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI412-2	✓	11	7⅛	12	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV412-2	✓	7	7⅛	12	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV412-2	✓	7	7⅛	12	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WMI412-2[4]	✓	12	7⅛	12	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175



1. 10d roofer nails (9 ga x 2⅛") may be substituted for 10ds in W hangers with no load reduction required.
2. Loads may not be increased for short-term loading. Uplift loads are based on tests on solid wood headers.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. ITTM and WM loads listed are based on attachment to a masonry block wall. See page 8 for additional information.
5. When I-joist is used as header, all nails must be 10dx1½.
6. Structural composite lumber is laminated veneer lumber, Parallam® PSL and TimberStrand® LSL.

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Top Flange Hangers - I-Joists & SCL

SIMPSON Strong-Tie CONNECTORS

Joist Size	Model No.	Web Stiff Reqd	Ga	Dimensions				Fasteners[1,4,5]			Allowable Loads[2]								
								Solid Header[5]		Joist	Uplift (133)	Uplift (160)	LVL	PSL[6]	LSL[6]	DF/SP	SPF	DF I-Joist[5]	Masonry[4]
				W	H	B	TF	Top	Face										
7 x 14	BI414-2	✓	12	7⅛	14	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	HBI414-2	✓	12	7⅛	14	2½	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI414-2	✓	12	7⅛	14	2½	2⅝	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI414-2	✓	11	7⅛	14	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU7.12/14	✓	10	7⅛	14	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV414-2	✓	7	7⅛	14	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV414-2	✓	7	7⅛	14	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WMI414-2[4]	✓	12	7⅛	14	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
7 x 16	BI416-2	✓	12	7⅛	16	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	HBI416-2	✓	12	7⅛	16	2½	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI416-2	✓	12	7⅛	16	2½	2⅝	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI416-2	✓	11	7⅛	16	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU7.12/16	✓	10	7⅛	16	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5416	—	—
	GLTV416-2	✓	7	7⅛	16	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV416-2	✓	7	7⅛	16	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WMI416-2[4]	✓	12	7⅛	16	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
7 x 18	BI418-2	✓	12	7⅛	18	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	HBI418-2	✓	12	7⅛	18	2½	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI418-2	✓	12	7⅛	18	2½	2⅝	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI418-2	✓	11	7⅛	18	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
	HWU7.12/18	✓	10	7⅛	18	3¼	2½	4-16d	4-16d	6-10d	1020	1135	6000	5500	5535	6000	5415	—	—
	GLTV418-2	✓	7	7⅛	18	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV418-2	✓	7	7⅛	18	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	WMI418-2[4]	✓	12	7⅛	18	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
7 x 18¾	GLTV418.75-2	✓	7	7⅛	18¾	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
7 x 20	BI420-2	✓	12	7⅛	20	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	HBI420-2	✓	12	7⅛	20	2½	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI420-2	✓	12	7⅛	20	2½	2⅝	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	WMI420-2[4]	✓	12	7⅛	20	2½	3¾	2-16dDPLX	—	2-10d	—	—	—	—	—	—	—	—	4175
	HWU7.12/20	✓	10	7⅛	20	3¼	2½	4-16d	4-16d	6-10d	765	765	6000	5500	5535	6000	5415	—	—
	GLTV420-2	✓	7	7⅛	20	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5700	7000	—	—	—
	HGLTV420-2	✓	7	7⅛	20	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
	HWI420-2	✓	11	7⅛	20	2½	2½	4-16d	—	2-10d	—	—	5100	4000	4500	5285	3665	—	—
7 x 22	BI422-2	✓	12	7⅛	22	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	HBI422-2	✓	12	7⅛	22	2½	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI422-2	✓	12	7⅛	22	2½	2⅝	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI422-2	✓	11	7⅛	22	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV422-2	✓	7	7⅛	22	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV7.12/22	✓	7	7⅛	22	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
7 x 24	BI424-2	✓	12	7⅛	24	2½	2½	2-16d	4-16d	2-10d	310	375	2315	2225	—	2665	1835	—	—
	HBI424-2	✓	12	7⅛	24	2½	2½	4-16d	4-16d	4-16d	615	615	3335	3100	—	3835	2785	—	—
	WPI424-2	✓	12	7⅛	24	2½	2⅝	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI424-2	✓	11	7⅛	24	2½	2½	4-16d	—	4-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV424-2	✓	7	7⅛	24	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV7.12/24	✓	7	7⅛	24	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
7 x 26	WPI426-2	✓	12	7⅛	26	2½	2⅝	3-16d	—	2-10d×1½	—	—	3635	3320	3650	3255	2600	2030	—
	HWI426-2	✓	11	7⅛	26	2½	2½	4-16d	—	6-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV426-2	✓	7	7⅛	26	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV426-2	✓	7	7⅛	26	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
7 x 28	HWI428-2	✓	11	7⅛	28	2½	2½	4-16d	—	6-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV428-2	✓	7	7⅛	28	5	2⅞	4-16d	6-16d	6-16d	1370	1640	7500	7400	5750	7000	—	—	—
	HGLTV428-2	✓	7	7⅛	28	6	2⅞	6-16d	12-16d	6-16d	1370	1640	10500	7800	9000	8665	—	—	—
7 x 30	HWI430-2	✓	11	7⅛	30	2½	2½	4-16d	—	6-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV430-2	✓	7	7⅛	30	5	2⅞	4-16d	6-16d	6-16d	—	—	7500	7400	5750	7000	—	—	—
	HGLTV430-2	✓	7	7⅛	30	6	2⅞	6-16d	12-16d	6-16d	—	—	10500	7800	9000	8665	—	—	—
7 x 32	HWI432-2	✓	11	7⅛	32	2½	2½	4-16d	—	6-10d	—	—	5100	4000	4500	5285	3665	—	—
	GLTV432-2	✓	7	7⅛	32	5	2⅞	4-16d	6-16d	6-16d	—	—	7500	7400	5750	7000	—	—	—
	HGLTV432-2	✓	7	7⅛	32	6	2⅞	6-16d	12-16d	6-16d	—	—	10500	7800	9000	8665	—	—	—

1. 10d roofer nails (9 ga x 2⅛") may be substituted for 10ds in W hangers with no load reduction required.
2. Loads may not be increased for short-term loading. Uplift loads are based on tests on solid wood headers.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for wind or earthquake loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. ITTM and WM loads listed are based on attachment to a masonry block wall. See page 8 for more info.
5. When I-joist is used as header, all nails must be 10dx1½.
6. Structural composite lumber is laminated veneer lumber. Parallam® PSL and TimberStrand® LSL.

Parallam and TimberStrand are registered trademarks of Trus Joist, a Weyerhaeuser company.

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LSU/LSSU LIGHT SLOPEABLE/SKEWABLE U HANGERS FOR I-JOISTS & SCL

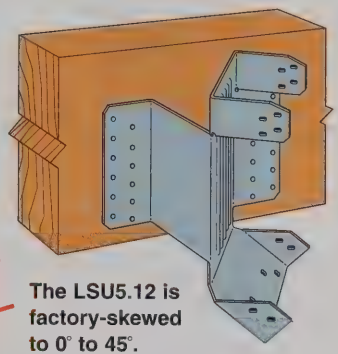
This series attach joists or rafters to headers, sloped up or down, and skewed left or right, up to 45°.

MATERIAL: See table

FINISH: Galvanized

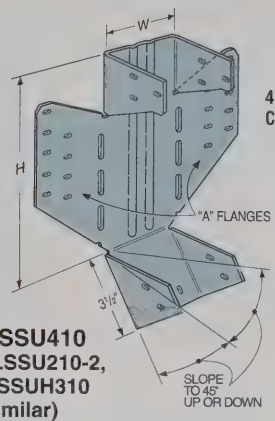
INSTALLATION: • Use all specified fasteners. See General Notes.
- Attach the sloped joist at both ends so that the horizontal force developed by the slope is fully supported by the supporting members.
- Web stiffeners required for I-joist applications.

CODES: BOCA, ICBO, SBCCI NER-209, NER-421, NER-432. City of L.A. RR 24949, RR 25074 and RR 25076.



NEW

The LSU5.12 is factory-skewed to 0° to 45°. It may be field-sloped to 45°. (LSU4.12 similar)



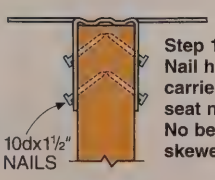
LSSU410 (LSSU210-2, LSSUH310 similar)

U.S. Patent 4,423,977 and Canada Patent 1,168,827

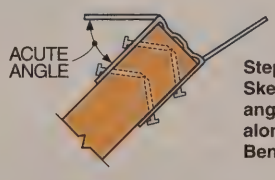
Joist Width	Model No.	Ga.	Dimensions W	Dimensions H	Fasteners Face	Fasteners Joist	Allowable Loads Uplift (133)	Uplift (160)	DF/SP Species Header Floor (100)	DF/SP Species Header Roof Snow (115)	DF/SP Species Header Roof Const. (125)	Uplift (133)	SPF Species Header Floor (100)	SPF Species Header Roof Snow (115)	SPF Species Header Roof Const. (125)
Sloped Only Hangers															
1 1/2	LSSU210	18	1 9/16	8 1/2	10 - 10d	7 - 10dx1 1/2	730	875	1110	1275	1390	625	960	1105	1200
1 3/4	LSSUI25	18	1 13/16	8 1/2	10 - 10d	7 - 10dx1 1/2	730	875	1110	1275	1390	625	960	1105	1200
2	LSSUI2.06	18	2 1/16	8 1/2	10 - 10d	7 - 10dx1 1/2	730	875	1110	1275	1390	625	960	1105	1200
2 1/4 - 2 5/16	LSSUI35	18	2 5/16	8 1/2	10 - 10d	7 - 10dx1 1/2	730	875	1110	1275	1390	625	960	1105	1200
2 1/2	LSSUH310	16	2 9/16	8 1/2	18 - 16d	12 - 10dx1 1/2	1150	1150	2395	2565	2565	990	2070	2215	2215
2 5/8	LSSUIH2.68/10	16	2 11/16	8 1/2	18 - 16d	12 - 10dx1 1/2	1150	1150	2395	2565	2565	990	2070	2215	2215
3	LSSU210-2	16	3 1/8	8 1/2	18 - 16d	12 - 10dx1 1/2	1150	1150	2395	2755	2990	990	2070	2380	2590
3 1/2	LSSU410	16	3 9/16	8 1/2	18 - 16d	12 - 10dx1 1/2	1150	1150	2395	2755	2990	990	2070	2380	2590
NEW 4	LSU4.12	14	4 1/8	9	24 - 16d	16 - 10dx1 1/2	1150	1150	3215	3700	4020	990	2785	3200	3480
4 1/2 - 4 3/4	LSU3510-2	14	4 3/4	8 7/8	24 - 16d	16 - 10dx1 1/2	1150	1150	3215	3700	4020	990	2785	3200	3480
NEW 5	LSU5.12	14	5 1/8	9	24 - 16d	16 - 10dx1 1/2	885	885	3215	3700	3785	760	2785	3200	3280
Skewed Only or Sloped and Skewed Hangers															
1 1/2	LSSU210	18	1 9/16	8 1/2	9 - 10d	7 - 10dx1 1/2	730	875	995	1145	1205	625	860	995	1050
1 3/4	LSSUI25	18	1 13/16	8 1/2	9 - 10d	7 - 10dx1 1/2	730	875	995	1145	1205	625	860	995	1050
2	LSSUI2.06	18	2 1/16	8 1/2	9 - 10d	7 - 10dx1 1/2	730	875	995	1145	1205	625	860	995	1050
2 1/4 - 2 5/16	LSSUI35	18	2 5/16	8 1/2	9 - 10d	7 - 10dx1 1/2	730	875	995	1145	1205	625	860	995	1050
2 1/2	LSSUH310	16	2 9/16	8 1/2	14 - 16d	12 - 10dx1 1/2	1150	1150	1600	1600	1600	990	1385	1385	1385
2 5/8	LSSUIH2.68/10	16	2 11/16	8 1/2	14 - 16d	12 - 10dx1 1/2	1150	1150	1600	1600	1600	990	1385	1385	1385
3	LSSU210-2	16	3 1/8	8 1/2	14 - 16d	12 - 10dx1 1/2	1150	1150	1825	1865	1865	990	1580	1610	1610
3 1/2	LSSU410	16	3 9/16	8 1/2	14 - 16d	12 - 10dx1 1/2	1150	1150	1825	1865	1865	990	1580	1610	1610
NEW 4	LSU4.12	14	4 1/8	9	24 - 16d	16 - 10dx1 1/2	1150	1150	2300	2300	2300	990	1990	1990	1990
4 1/2 - 4 3/4	LSU3510-2	14	4 3/4	8 7/8	24 - 16d	16 - 10dx1 1/2	1150	1150	2300	2300	2300	990	1990	1990	1990
NEW 5	LSU5.12	14	5 1/8	9	24 - 16d	16 - 10dx1 1/2	885	885	1790	1790	1790	760	1550	1550	1550

1. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for load durations according to the code provided they do not exceed those in the roof columns.
2. Uplift loads include a 33% and 60% increase for earthquake or wind loading; no further increase is allowed.
3. LSU3510-2, LSU4.12 and LSU5.12 skew option must be factory-ordered.
4. Minimum 11" joist height.

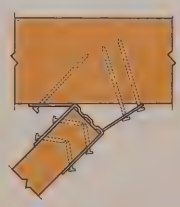
LSSU INSTALLATION SEQUENCE



Step 1
Nail hanger to slope-cut carried member, installing seat nail first. No bevel necessary for skewed installation.



Step 2
Skew flange to form acute angle. Bend other flange back along centerline of slots. Bend one time only.



Step 3
Attach hanger to the carrying member, acute angle side first. Install nails at an angle.

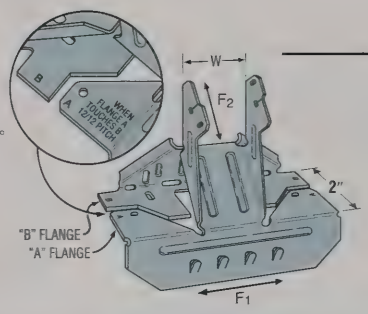
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VPA VARIABLE PITCH CONNECTORS

The VPA is adjustable to slopes between 3:12 and 12:12, complementing the versatile LSSU.

No notching is required when using the VPA. This hanger reduces the need for beveled plates and toe-nailing.

MATERIAL: 18 gauge
FINISH: Galvanized
INSTALLATION: • Use all specified fasteners. See General Notes.
CODE: BOCA, ICBO, SBCCI NER-209.

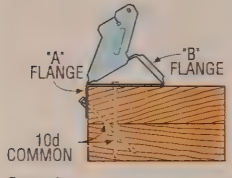


VPA25

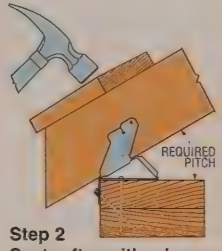
Joist Width	Model No.	W	Fasteners		Allowable Loads													
					Uplift				Download		Lateral							
					DF/SP Species		SPF Species				DF/SP Species				SPF Species			
											(133)		(160)		(133)		(160)	
			Carrying Member	Carried Member	(133)	(160)	(133)	(160)	DF/SP	SPF	F_1	F_2	F_1	F_2	F_1	F_2	F_1	F_2
1 1/2	VPA2	1 9/16	8 - 10d	2 -10dx1 1/2	245	295	210	250	1050	870	375	245	375	250	325	210	325	250
1 3/4	VPA25	1 13/16	8 - 10d	2 -10dx1 1/2	245	295	210	250	1050	870	375	245	375	250	325	210	325	250
2	VPA2.06	2 1/16	9 - 10d	2 -10dx1 1/2	245	295	210	250	1230	1020	375	245	375	250	325	210	325	250
2 1/4 - 2 5/16	VPA35	2 5/16	9 - 10d	2 -10dx1 1/2	245	295	210	250	1230	1020	375	245	375	250	325	210	325	250
2 1/2	VPA3	2 9/16	9 - 10d	2 -10dx1 1/2	245	295	210	250	1230	1020	375	245	375	250	325	210	325	250
3 5/8	VPA2.68	2 11/16	9 - 10d	2 -10dx1 1/2	245	295	210	250	1230	1020	375	245	375	250	325	210	325	250
3 1/2	VPA4	3 9/16	11 - 10d	2 -10dx1 1/2	245	295	210	250	1230	1020	375	245	375	250	325	210	325	250

1. Uplift loads include a 33% and 60% increase for earthquake or wind loading; no further increase allowed.
2. Loads may not be increased for short-term loading.

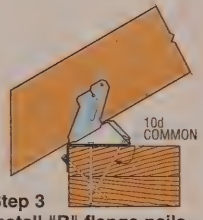
VPA INSTALLATION SEQUENCE



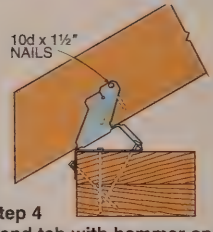
Step 1
Install top nails and face PAN nails in "A" flange to outside wall top plate.



Step 2
Seat rafter with a hammer, adjusting "B" flange to the required pitch.



Step 3
Install "B" flange nails in the obround nail holes, locking the pitch.



Step 4
Bend tab with hammer and install 10dx1½" nail into tab nail hole. Hammer nail in at a slight angle to prevent splitting.

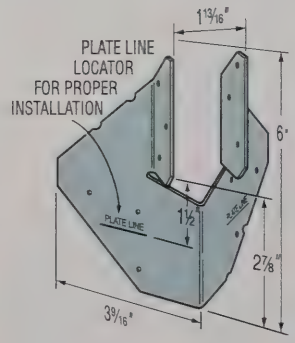
HCP HIP CORNER PLATES

The HCP connects a rafter or joist to double top plates at a 45° angle.

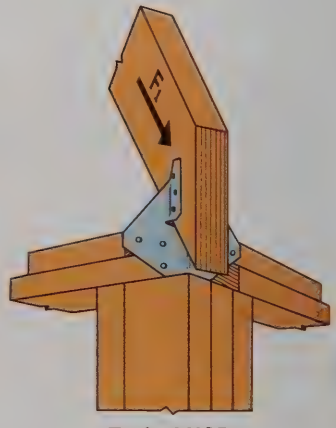
MATERIAL: 18 gauge.
FINISH: galvanized.
INSTALLATION: • Use all specified fasteners. See General Notes.
• Attach HCP to double top plates; birdsmouth not required for table loads.
• Install rafter and complete nailing. Rafter may be sloped to 45°.
CODE: BOCA, ICBO, SBCCI NER-499.

Member Size	Model No.	Fasteners		Uplift Avg Ult	Doug-Fir-Larch/ So. Pine Allowable Loads[1]		Spruce-Pine-Fir Allowable Loads[1]	
					(133 & 160)		(133 & 160)	
		To Rafters	To Plates		Uplift	F_1	Uplift	F_1
1¾	HCP1.81	6-10dx1½	6-10dx1½	2017	605	300	520	260

1. Loads may not be increased for short-term loading.
2. The HCP can be installed on the inside and the outside of the wall with a flat bottom chord truss and achieve twice the load capacity.
3. Uplift loads include a 33% and 60% increase for earthquake or wind loading; no further increase allowed.



HCP1.81
U.S. Patent 5,380,115



Typical HCP Installation

For complementary ridge connection, see page 93

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SUR/SUL/HSUR/HSUL SKEWED 45° HANGERS FOR I-JOIST & SCL

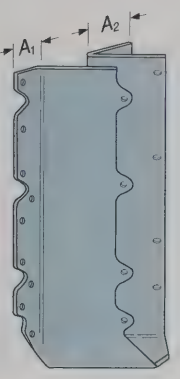
Standardized 45° skewed hangers, angled slots direct nails to allow proper installation.

MATERIAL: See table **FINISH**: Galvanized

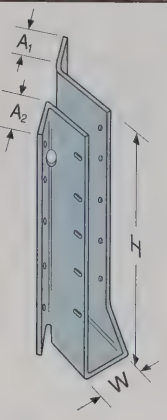
INSTALLATION: • Use all specified fasteners. See General Notes.
- These hangers will normally accommodate a 40° to 50° skew.
- **Illustration shows left and right skews SUR/L (SUR=skewed right; SUL=skewed left).**
- The joist end may be square cut or bevel cut.
- Web stiffeners required for I-joist application.

OPTIONS: • Available with the A_2 flange turned in on the 2-2x and 4x models only (see illustration).
- To order, add "C" (for concealed) to the product name.
- For example, specify HSURC46, HSULC46, SURC46, or SULC46.

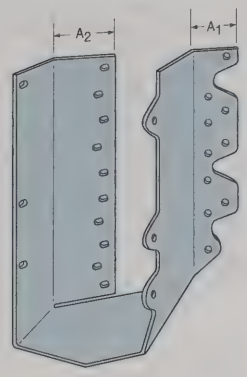
CODES: ICBO 5117 and 5357; City of L.A. RR 24947 (SUR/L).



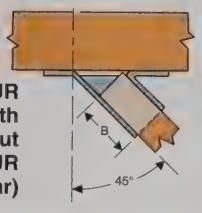
HSUR



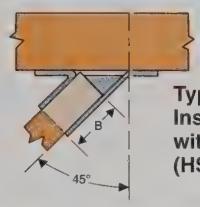
SUL



HSULC
Available for 2-2x and 4x models only



Typical SUR Installation with Square Cut Joist (HSUR similar)



Typical SUL Installation with Square Cut Joist (HSUL similar)

Joist Width	Model No.	Ga.	Dimensions W	Dimensions H	Fasteners Face	Fasteners Joist	Allowable Loads Uplift (133)	Uplift (160)	DF/SP Species Header Floor (100)	DF/SP Species Header Roof Snow (115)	DF/SP Species Header Roof Const. (125)	SPF Species Header Floor (100)	SPF Species Header Roof Snow (115)	SPF Species Header Roof Const. (125)
1 1/2 x 9 1/4-12	SUR/L210	16	1 9/16	8	10 - 16d	10 - 10dx1 1/2	1200	1250	1330	1530	1660	1150	1320	1440
1 1/2 x 10-16	SUR/L214	16	1 9/16	10	12 - 16d	12 - 10dx1 1/2	1440	1730	1595	1835	1995	1380	1585	1725
1 3/4 x 9 1/2-12	SURI/LI9	16	1 13/16	9 3/16	8 - 16d	8 - 10dx1 1/2	960	1150	1065	1225	1330	920	1005	1005
1 3/4 x 10 - 16	SURI/LI11	16	1 13/16	10	10 - 16d	10 - 10dx1 1/2	1200	1250	1330	1530	1660	1150	1320	1440
2 x 9 1/2-14	SURI/LI2.06/9	16	2 1/16	9	14 - 16d	6 - 10dx1 1/2	720	765	1860	2140	2330	1610	1785	1785
2 1/4-2 5/16 x 9 1/2-14	SURI/LI3510/12	16	2 5/16	9	14 - 16d	6 - 10dx1 1/2	720	765	1860	2140	2330	1610	1785	1785
2 1/4-2 5/16 x 14-20	SURI/LI3514/20	16	2 5/16	13	18 - 16d	8 - 10dx1 1/2	960	1150	2395	2500	2500	1795	1795	1795
2 1/2 x 9 1/4-14	SUR/L310	16	2 9/16	8 15/16	14 - 16d	6 - 10dx1 1/2	720	765	1860	2140	2330	1610	1785	1785
2 1/2 x 14-20	SUR/L314	16	2 9/16	13	18 - 16d	8 - 10dx1 1/2	960	1150	2395	2500	2500	1795	1795	1795
2 5/8 x 9 1/4-14	SURI/LI2.68/10	16	2 11/16	8 15/16	14 - 16d	6 - 10dx1 1/2	720	765	1860	2140	2330	1610	1785	1785
2 5/8 x 14 - 20	SURI/LI2.68/14	16	2 11/16	12 15/16	18 - 16d	8 - 10dx1 1/2	960	1150	2395	2500	2500	1795	1795	1795
3 x 9 1/4 -14	SUR/L210-2	16	3 1/8	8 11/16	14 - 16d	6 - 10dx1 1/2	720	765	1860	2140	2330	1610	1785	1785
3 x 9 1/4 -14	HSUR/L210-2	14	3 1/8	8 11/16	20 - 16d	6 - 16dx1 1/2	1070	1285	2680	3080	3350	2320	2670	2900
3 x 14 - 20	SUR/L214-2	16	3 1/8	12 11/16	14 - 16d	8 - 10dx1 1/2	960	1150	2395	2500	2500	1795	1795	1795
3 x 14 - 20	HSUR/L214-2	14	3 1/8	12 11/16	26 - 16d	8- 16dx1 1/2	1430	1715	3485	4005	4355	3015	3470	3770
3 1/2 x 9 1/4-14	SUR/L410	16	3 9/16	8 1/2	14 - 16d	6 - 16d	1065	1275	1860	2140	2330	1610	1785	1785
3 1/2 x 14 - 20	HSUR/L410	14	3 9/16	8 1/2	20 - 16d	6 - 16d	1070	1285	2680	3080	3350	2320	2670	2900
3 1/2 x 9 1/4-14	SUR/L414	16	3 9/16	12 1/2	18 - 16d	8 - 16d	1420	1700	2395	2500	2500	1795	1795	1795
3 1/2 x 14 - 20	HSUR/L414	14	3 9/16	12 1/2	26 - 16d	8 - 16d	1430	1715	3485	4005	4355	3015	3470	3770

1. Uplift loads have been increased by 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load conditions as required by code.
2. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for other load durations according to the code, provided they do not exceed those in the roof column.

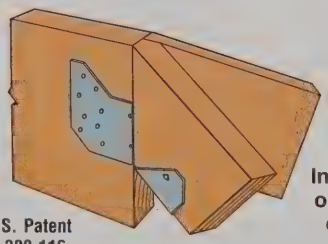
HRC HIP RIDGE CONNECTORS

For complementary plate connection, see page 92

MATERIAL: 16 gauge **FINISH**: Galvanized

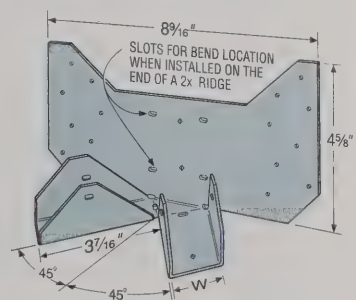
INSTALLATION: • Use all specified fasteners. See General Notes.
- On end of ridge–use optional diamond holes on HRC1.81 to secure the HRC. Bend face flanges on HRC1.81 back flush with ridge, and complete nailing.
- HRC1.81 on face of ridge–adjust to correct height and install nails.
- Double bevel-cut hip members to achieve full bearing capacity.
- The HRC may be sloped to 45° with no reduction in loads.

CODE: BOCA, ICBO, SBCCI No. NER-499.



U.S. Patent 5,380,116

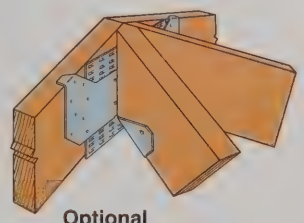
Typical HRC1.81 Installation on the end of a ridge



HRC1.81

Model No.	Member Size W	Member Size Ridge	Fasteners Carrying Member	Fasteners Each Hip	Down Avg Ult	Doug Fir Larch/So. Pine Allowable Loads Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	Spruce-Pine-Fir Allowable Loads Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)
HRC1.81	1 13/16	2x or 1¾" wide	16-10dx1½	2-10dx1½	5950	240	290	720	830	900	210	250	625	720	780

1. Allowable loads shown are for each hip. Total load carried by the connector is double this number.
2. Uplift loads include a 33% & 60% increase for earthquake or wind loading; no further increase allowed.
3. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for other load durations provided they do not exceed those in the roof column.



Optional HRC1.81 Installation

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FACE MOUNT HANGERS U/HU GLULAM BEAM JOIST HANGERS

See Hanger tables on page 95. See Hanger Options on pages 140 and 142 for hanger modifications, which may result in reduced loads.

U—The standard U hanger provides flexibility of joist to header installation. Versatile fastener selection with tested allowable loads.

HU—Most models have triangle and round holes. To achieve maximum loads, fill both round and triangle holes with common nails. These heavy-duty connectors are designed for schools and other structures requiring additional strength, longevity and safety factors.

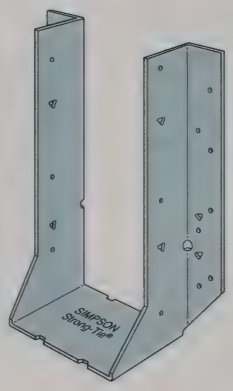
MATERIAL: See tables on page 95.

FINISH: Galvanized

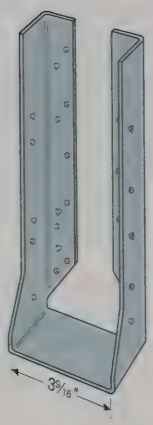
INSTALLATION: • Use all specified fasteners. See General Notes.
- HU—can be installed filling round holes only, or filling round and triangle holes for maximum values.

OPTIONS: • HU hangers available with the header flanges turned in for 2-2x (3⅛") and larger widths, with no load reduction–order HUC hanger.
- See Hanger Options on page 142, for sloped and/or skewed U/HU models, and HUC (concealed flange) models.
- HU only—rough beam sizes available by special order.
- See also HUS series.

CODES: ICBO 5117; City of L.A. RR 24947; Dade Co., FL 98-1021.01.

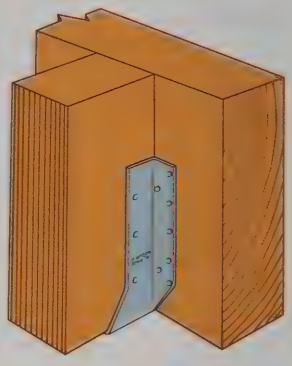


HU410

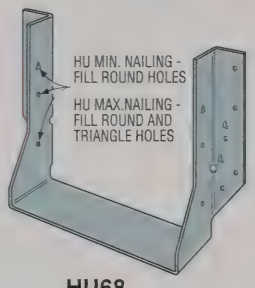


HUC412 Concealed Flanges

Model configurations may differ from those shown. Some HU models do not have triangle holes. Consult factory for details.



Typical HU Installation



HU68

Projection seat on most models for maximum bearing and section economy.

FACE MOUNT HANGERS HGUS DOUBLE SHEAR JOIST HANGERS

See Hanger tables on page 95. See Hanger Options on pages 140 and 142 for hanger modifications, which may result in reduced loads.

These hangers have the highest loads of any face mount hangers!

All hangers in this series have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation, and the use of common nails for all connections. (Do not bend or remove tabs)

MATERIAL: See tables, page 95.

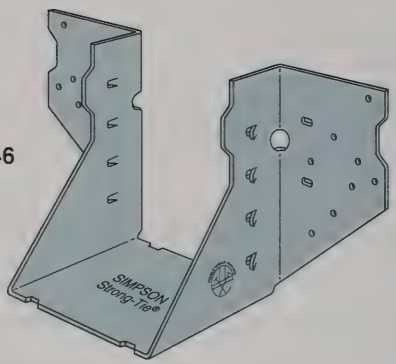
FINISH: Galvanized. Some products available in stainless steel or Z-MAX; see Corrosion-Resistance, page 5.

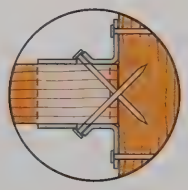
INSTALLATION • Use all specified fasteners. See General Notes.
- Nails must be driven at an angle through the joist or truss into the header to achieve the table loads.
- Not designed for welded or nailer applications.
- 16d sinkers (9 gauge x 3¼") may be used where 10d commons are specified with no reduction in load. Where 16d commons are specified, 10d commons or 16d sinkers (9 gauge x 3¼") may be used at 0.84 of the table load.
- With 3x carrying members, use 16d x 2½" nails into the header and 16d commons into the joist with no load reduction. With 2x carrying members, use 10d x 1½" nails into the header and 10d commons into the joist, and reduce the load to 0.64 of the table value.

OPTIONS:
- Concealed flanges are not available for HGUS.
- Other sizes available; consult your Simpson representative.

CODES: BOCA, ICBO, SBCCI Nos. NER-209, NER-413, NER-421; City of L.A. RR 24949; Dade Co. FL,No 98-0724.06 (HUS).

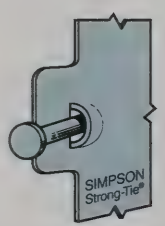
HGUS46





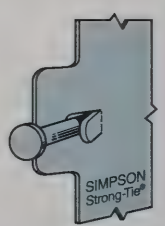
Double Shear Nailing Top View

U.S. Patent 4,480,941
Canada Patent 1,193,418



Dome Double Shear Nailing prevents tabs breaking off (available on some models)

U.S. Patent 5,603,580



Double Shear Nailing Side View

U.S. Patent 4,291,996

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CJT KIT CONCEALED JOIST TIE KIT

The CJT is a concealed connector. It can be installed three ways: with no routing of header/post or beam; a routed header/post, or a routed beam.

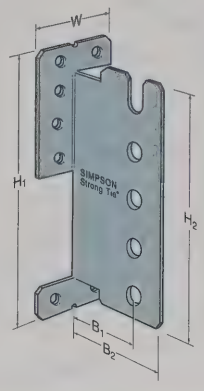
MATERIAL: 12 gauge **FINISH**: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.

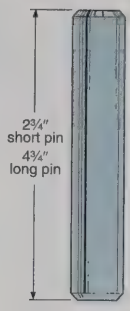
- The CJT Kit is supplied with all pins and screws required. Screws require a Phillips # 3 driver.
- The joist/beam may be sloped to 45° with full table loads.
- Request F-CJT flier for installation instructions and ordering information.

OPTIONS: Order short or long pins, eg. CJT3S or CJT3L.

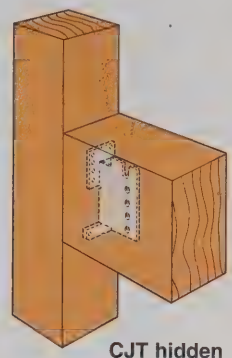
CODES: ICBO 5537.



CJT5 (others similar)



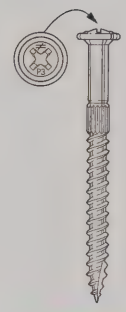
Chamfered Steel Pin



CJT hidden installation connects beam to post or header

Model No.	Joist Size	Dimensions					Fasteners		Allowable Loads			
		W	H_1	H_2	B_1	B_2	Screws	Pins	Uplift (133)	Floor (100)	Snow (115)	Roof (125)
GLULAM BEAM												
CJT3	3⅛x6	2⅜	5⁹⁄₁₆	4⁷⁄₁₆	2⅝	3½	6	3-2¾ (3-4¾)	1655 (1725)	1240 (1240)	1240 (1240)	1240 (1240)
CJT4	3⅛x7½	2⅜	7	5¹⁵⁄₁₆	2⅝	3½	8	4-2¾ (4-4¾)	2460 (2460)	2440 (2440)	2805 (2805)	2900 (2900)
CJT5	3⅛x9	2⅜	8⁹⁄₁₆	7⁷⁄₁₆	2⅝	3½	10	5-2¾ (5-4¾)	3255 (3490)	3005 (3070)	3455 (3530)	3755 (3840)
CJT6	3⅛x10½	2⅜	10	8¹⁵⁄₁₆	2⅝	3½	12	6-2¾ (6-4¾)	4005 (4775)	3535 (4300)	4065 (4945)	4420 (5140)
PSL												
CJT3	3⅛x9½	2⅜	5⁹⁄₁₆	4⁷⁄₁₆	2⅝	3½	6	3-2¾ (3-4¾)	1655 (1725)	1840 (2160)	2115 (2160)	2160 (2160)
CJT4	3⅛x9½	2⅜	7	5¹⁵⁄₁₆	2⅝	3½	8	4-2¾ (4-4¾)	2460 (2460)	2145 (2145)	2145 (2145)	2145 (2145)
CJT5	3⅛x9½	2⅜	8⁹⁄₁₆	7⁷⁄₁₆	2⅝	3½	10	5-2¾ (5-4¾)	3255 (3490)	3005 (3070)	3455 (3530)	3755 (3840)
CJT6	3⅛x10½	2⅜	10	8¹⁵⁄₁₆	2⅝	3½	12	6-2¾ (6-4¾)	4005 (4775)	3535 (4300)	4065 (4910)	4420 (4910)

1. Long pin loads are listed in ( ).



SDP¼X3

Face Mount Hangers - Glulam Beam

Joist Size	Model No.	Ga	Dimensions			Fasteners		Allowable Loads							
								Uplift (133)	Uplift (160)	DF/SP Species Header			SPF Species Header		
			W	H	B	Face	Joist			Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
3⅛ GLULAM	HU212-2 MIN	14	3⅛	10⁹⁄₁₆	2½	16-16d	6-10d	905	1085	2145	2465	2680	1855	2135	2320
	HU212-2 MAX		3⅛	10⁹⁄₁₆	2½	22-16d	10-10d	1505	1810	2950	3390	3685	2550	2935	3190
	HU3.25/10.5		3¼	10¼	2½	22-16d	10-10d	1505	1810	2950	3390	3685	2550	2935	3190
	HU3.25/12		3¼	11¾	2½	24-16d	12-10d	1810	2015	3215	3700	4020	2785	3200	3480
	HU216-2 MIN		3⅛	13⅞	2½	20-16d	8-10d	1205	1445	2680	3080	3350	2320	2670	2900
	HU216-2 MAX		3⅛	13⅞	2½	26-16d	12-10d	1810	2015	3485	4005	4355	3015	3470	3770
	HGUS3.25/10	12	3¼	8⅝	4	46-16d	12-16d	3415	4100	7890	8330	8445	6745	7755	8430
	HGUS3.25/12		3¼	10⅝	4	56-16d	14-16d	3985	4780	9535	10965	11335	8155	9380	10195
5⅛ GLULAM	HU5.125/12	14	5¼	10¼	2½	22-16d	8-16d	1430	1715	2950	3390	3685	2550	2935	3190
	HU5.125/13.5		5¼	13¼	2½	26-16d	12-16d	2145	2575	3485	4005	4355	3015	3470	3770
	HU5.125/16		5¼	13⅞	2½	26-16d	12-16d	2145	2575	3485	4005	4355	3015	3470	3770
	HGUS5.25/10	12	5¼	9⅛	4	46-16d	12-16d	3415	4100	7890	8665	8665	6745	7755	8430
	HGUS5.25/12		5¼	10⁹⁄₁₆	4	56-16d	14-16d	3985	4780	9535	10965	11335	8185	9380	10195
6¾ GLULAM	HGUS6.88/10	12	6⅞	8¹³⁄₁₆	4	46-16d	12-16d	3415	4100	7890	8665	8665	6745	7755	8430
	HGUS6.88/12		6⅞	10¹³⁄₁₆	4	54-16d	14-16d	3985	4780	9535	10965	11335	8185	9380	10195
	HGUS6.88/14		6⅞	12¹³⁄₁₆	4	66-16d	16-16d	4555	5000	11180	11335	11335	9565	11000	11335

1. 10d common nails or 16d sinkers (9 gauge x 3¼") may be used instead of the specified 16d nails at 0.84 of the table load value.
2. 16d sinkers (9 gauge x 3¼") may be used instead of the specified 10d commons with no load reduction.
3. Uplift loads based on Douglas Fir have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. MIN nailing quantity and load values—fill all round holes; MAX nailing quantity and load values—fill all round and triangle holes.

Structural Composite Lumber can be Glulam Beam, LVL, TimberStrand® LSL or PSL.

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TOP FLANGE HANGERS HHB/GB/HGB BEAM AND PURLIN HANGERS

SIMPSON Strong-Tie CONNECTORS

See tables on page 99. See Hanger Options on pages 140 and 141 for hanger modifications, which may result in reduced loads.

Precision forming with manufacturing quality control provides dimensional accuracy and helps ensure proper bearing area and connection.

MATERIAL: See tables, page 99.

FINISH: HHB, GB, HGB, all saddle hangers and all welded sloped and special hangers—Simpson gray paint. HHB may be ordered hot-dip galvanized; specify HDG.

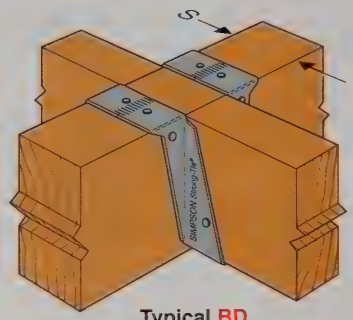
INSTALLATION: • Use specified fasteners. See General Notes and nailer table.

- HHB, GB and HGB may be used for weld-on applications. The minimum required weld to the top flanges is ⅛" x 2" fillet weld to each side of each top flange tab for 14 and 12 gauge and 3⁄16" x 2" fillet weld to each side of each top flange tab for 7 gauge. Distribute the weld equally on both top flanges. Welding cancels the top and face nailing requirements. Consult the code for special considerations when welding galvanized steel. The area should be well-ventilated. Weld on applications produce the maximum allowable load listed. Uplift loads do not apply to welded applications.
- Web stiffeners are required for use with this hanger style.
- Ledgers must be evaluated for each application separately. Check TF dimension, nail length and nail location on ledger.

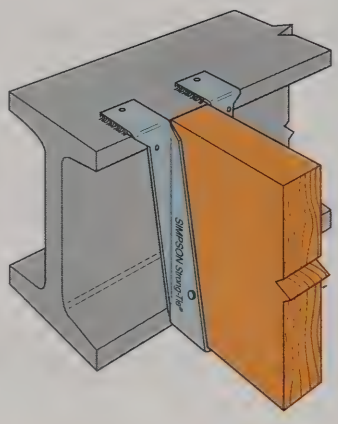
OPTIONS: • HHB–other widths are available; specify W dimension (the minimum W dimension is 1¾").

- Saddle hangers are made to order; add "D" to model (e.g. HHBD412); specify S (for saddle) dimension. They may be used for most conditions except at end wall locations, and are preferred for nailer applications.
- The finish on special B hangers will depend on the manufacturing process used. Check with your Simpson representative for details. Hot-dipped galvanized available: specify HDG.
- B dimensions may be increased on some models. Ordering example: HHB2.6X, B=3.5, H=9.5.
- See Hanger Options, page 120.

CODES: BOCA, ICBO, SBCCI; ICBO 5117; City of L.A. RR 24947.



Typical BD Saddle Installation



HHB, GB and HGB are acceptable for weld-on applications. See Instructions to the Installer, page 7, note e.

MBHA MASONRY HANGERS

The MBHA is a single piece, non-welded connector available for solid sawn, truss and engineered wood products.

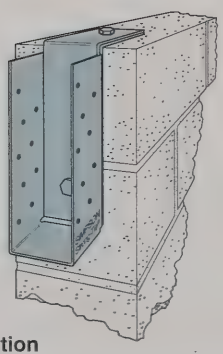
MATERIAL: 10 gauge

FINISH: Galvanized

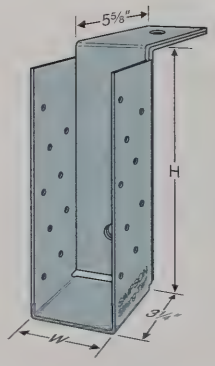
INSTALLATION: • Use all specified fasteners. See General Notes.

OPTIONS: See Hanger Options, page 144.

CODE: SBCCI 9603.



Typical MBHA Installation



MBHA

Model No.	Dimensions W	Dimensions H
MBHA3.12/9.25	3⅛	9¼
MBHA3.12/11.25	3⅛	11¼
MBHA3.56/7.25	3⅜16	7¼
MBHA3.56/9.25	3⅜16	9¼
MBHA3.56/11.25	3⅜16	11¼
MBHA3.56/11.88	3⅜16	11⅞
MBHA3.56/14	3⅜16	14
MBHA3.56/16	3⅜16	16
MBHA3.56/18	3⅜16	18
MBHA5.50/7.25	5½	7¼
MBHA5.50/9.25	5½	9¼
MBHA5.50/11.25	5½	11¼
MBHA5.50/11.88	5½	11⅞
MBHA5.50/14	5½	14
MBHA5.50/16	5½	16
MBHA5.50/18	5½	18

Model No.	Fasteners[1] Header Top	Fasteners[1] Header Face	Fasteners[1] Joist	Solid Concrete Allowable Loads Uplift Avg Ult	Uplift[7] (133)	Uplift[7] (160)	Down Avg Ult	Maximum Down Load	Grouted CMU Allowable Loads Uplift Avg Ult	Uplift[7] (133)	Uplift[7] (160)	Down Avg Ult	Maximum Down Load
MBHA	1-ATR¾x8	1-ATR¾x8	18-10d	15712	3145	3775	22352	6050	11290	3145	3475	20895	5330
MBHA models with H = 7¼	1-ATR¾x8	1-ATR¾x4¾	18-10d	—	1885	1885	—	4380	5955	1885	1885	14562	4380

1. ATR is all threaded rod.
2. Allowable loads are based on a minimum of 2500 psi concrete and 2500 psi grout with one #5 horizontal rebar in the shear cone.
3. Uplift loads have been increased 33% and 60% for wind loading with no further increase allowed.
4. Loads are based on installation using Simpson ET22 Epoxy-Tie 6¾" minimum embedment required. All thread rods and/or machine bolts to be ¾" diameter x 8" long, grade A307 or better. Refer to the Anchoring Systems catalog.
5. MBHA hangers with height of 7¼" require a 3½" minimum embedment of the face bolt using ET22 Epoxy-Tie. All thread rods and/or machine bolts to be ¾" diameter x 4¾" long, grade A307 or better.
6. Additional anchorage products to be designed by others.
7. Uplift loads are for Southern Pine. For Doug Fir use 2930 lbs (133) and 3515 lbs (160).

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TOP FLANGE HANGERS WPU/WNP/HW/HWU

The WPU, HWU and HW series purlin hangers offer the greatest design flexibility and versatility.

MATERIAL: WPU—7 ga. top flange, 12 ga. stirrup; HW—3 ga. top flange, 11 ga. stirrup; HWU—3 ga. top flange, 10 ga, stirrup.

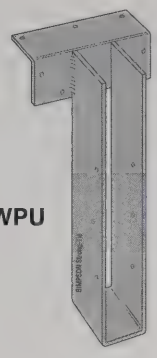
FINISH: Simpson gray paint; hot-dipped galvanized available: specify HDG.

ALLOWABLE LOADS: For hanger heights exceeding the joist height, the allowable load is 0.50 of the table load.

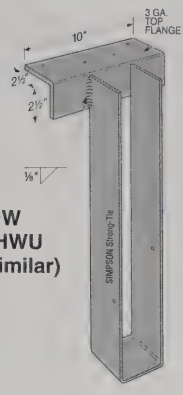
INSTALLATION: • Hangers may be welded to steel headers with ⅛" for W, and ¼" for HW, by 1½" fillet welds located at each end of the top flange. Weld-on applications produce maximum allowable load listed. Uplift loads do not apply to this application.
- Hangers can support multi-ply carried members; the individual members must be secured together to work as a single unit before installation into the hanger.
- H dimensions are sized to account for normal joist shrinkage. W dimensions are for dressed timber widths.

OPTIONS: **• See Hanger Options, page 143 for hanger modifications and associated load reductions.**

CODES: ICBO 5117; City of L.A. RR24947.



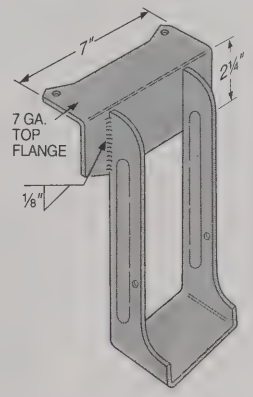
WPU



HW (HWU similar)

Model	Nailer	Top Flange Nailing	Allowable Loads		
			DF/SP	SPF	LSL
WNP	2x	2-10dx1½	2525	2500	3375
	3x	2-16dx2½	3000	2510	3375
	2-2x	2-10d	3255	3255	—
	4x	2-10d	3255	3255	—

Some model configurations may differ from those shown. Contact factory for details.



WNP412 and WNP414

NAILER TABLE

The table indicates the maximum allowable loads for WNP hanger used on wood nailers. Nailers are wood members attached to the top of a steel I-beam, concrete or masonry wall. This table also applies to sloped-seat hangers.

Model	Joist		Fasteners			Allowable Loads Header Type							
	Width	Depth	Top	Face	Joist	Uplift (133 & 160)	LVL	PSL	LSL	DF/SP	SPF	I-Joist	Masonry
WNP	1½ to 7½	3½ to 30	3-10dx1½	—	2-10dx1½	—	2865	3250	—	2500	2000	2030	—
	1½ to 7½	3½ to 30	3-10d	—	2-10dx1½	—	2525	3250	3650	3255	2525	—	—
	1½ to 7½	3½ to 30	3-16d	—	2-10dx1½	—	3635	3320	3650	3255	2600	—	—
WPU	1¾ to 5½	7¼ to 18	3-16d	4-16d	6-10dx1½	775	4700	4880	3650	4165	4165	—	—
	1¾ to 5½	18½ to 22½	3-16d	4-16d	6-10dx1½	485	4700	4880	3650	4165	4165	—	—
	1¾ to 5½	23 to 28	3-16d	4-16d	6-10dx1½	315	4700	4880	3650	4165	4165	—	—
HW	1½ to 7½	3½ to 32	4-10d	—	2-10dx1½	—	3100	4000	—	5285	3100	—	—
	1½ to 7½	3½ to 32	4-16d	—	2-10dx1½	—	5100	4000	4500	5285	3665	—	—
HWU	1¾ to 3⁹⁄₁₆	9 to 18	4-16d	4-16d	6-10dx1½	810	6335	5500	5535	6335	5415	—	—
	1¾ to 3⁹⁄₁₆	18½ to 22½	4-16d	4-16d	6-10dx1½	765	6335	5500	5535	6335	5415	—	—
	1¾ to 3⁹⁄₁₆	23 to 28	4-16d	4-16d	6-10dx1½	635	6335	5500	5535	6335	5415	—	—
	1¾ to 3⁹⁄₁₆	28½ to 32	4-16d	4-16d	8-10dx1½	1005	6335	5500	5535	6335	5415	—	—
	4¾ to 7⅛	9 to 18	4-16d	4-16d	6-10dx1½	810	6000	5500	5535	6000	5415	—	—
	4¾ to 7⅛	18½ to 22½	4-16d	4-16d	6-10dx1½	765	6000	5500	5535	6000	5415	—	—
	4¾ to 7⅛	23 to 28	4-16d	4-16d	6-10dx1½	635	6000	5500	5535	6000	5415	—	—
	4¾ to 7⅛	28½ to 32	4-16d	4-16d	8-10dx1½	1005	6000	5500	5535	6000	5415	—	—

1. 10d roofer nails (.148 x 2⅛) may be substituted for 10d commons in W hangers; no load reduction.
2. 16d sinkers (9 ga x 3") may be used where 10d commons are called out with no load reduction.
3. Uplift loads are based on Doug Fir and have been increased 33% and 60% for wind or earthquake loading; no further increase allowed. Reduce by 33% and 60% for normal loading like cantilever construction.

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TOP FLANGE HANGERS GLS/HGLS/GLT/HGLT

BEAM AND GLULAM SADDLE HANGERS

See tables on page 99. See Hanger Options on pages 140 and 145 for hanger modifications, which may result in reduced loads.

GLT and HGLT accommodate typical structural requirements for timber and glulam beams. Top flange depth allows installation on 3x ledger (2½" net). Funnel flanges allow easy installation of beams.

GLS and HGLS are heavy glulam saddle hangers. Tested and code-listed seismic tie provisions are added to the GLS or HGLS—order GLST or HGLST. The seismic tie models use three extra ¾" bolts through each carried member and two ¾" bolts through the supporting member. Bolt holes shall be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter (1997 NDS, sec. 8.1.2.1.).

MATERIAL: See tables, page 99.

FINISH: Simpson gray paint. Hot-dip galvanized available; specify HDG.

INSTALLATION: • Use all specified fasteners. See General Notes.

GLT/HGLT • All GLTs used with sawn timbers have a 12" L dimension.

- Fasteners are included.
- GLT may be attached to steel headers by 3/16" x 2½" fillet welds at each end of the header angle to obtain the tabulated loads. HGLT may be attached to steel headers by ¼" x 2½" fillet welds at each end of the header angle to obtain the lesser of the tabulated loads or 12,000 lbs. Uplift loads do not apply to this weld-on application.

GLS/HGLS • N54A nails are included with the hangers.

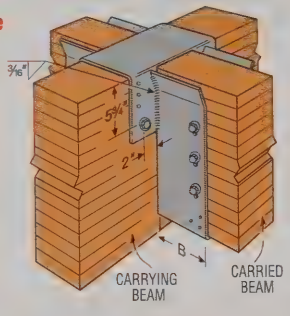
- Seismic Ties: the carried member bolts should be located in the upper half of the 13/16" x 1½" slotted holes. Standard washers must be used with all bolts.
- Loads listed are per stirrup. **See the appropriate Connector Selection Guide for manufacturers' load restrictions.**

TO ORDER: GLS/HGLS—Specify H_1 and H_2 (see illustration).

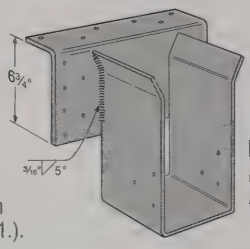
OPTIONS: See Hanger Options page 124.

CODE: ICBO 5117; City of L.A. RR 24947.

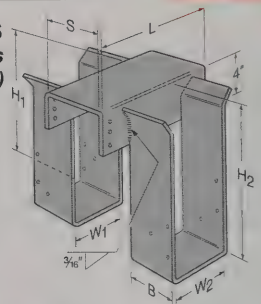
Funnel Flanges ease installation



GLST Installed with Glulam Beams (HGLST similar)
When H dimension is less than 18", product is supplied with seismic straps.

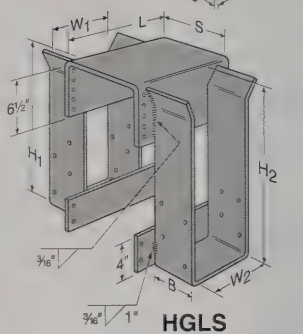


HGLT *(fasteners included)*

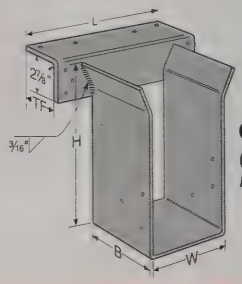


GLS *(fasteners included)*

Model	Top Flange Ga	Stirrup Width (W)	Top Flange Length (L)
GLT	3	2⅝ - 5½	10
		5 9/16 - 7½	12
HGLT	3	2⅝ - 8¼	12
		8⅞	14
GLS	3	3¼	6
		5¼	9
		6⅞	12
HGLS	3	5¼ - 8⅞	12
GLST	3	3¼	10⅛
		5¼	12⅛
		6⅞	13¾
HGLST	3	5¼	12⅛
		6⅞	13¾
		8⅞	15¾



HGLS *(fasteners included)*



GLT *(fasteners included)*

TOP FLANGE HANGERS LEG/MEG/EG

BEAM AND GLULAM HANGERS

See Hanger Options on pages 140 and 144 for hanger modifications, which may result in reduced loads.

This whole series has precision fabrication which offers dimensional accuracy, and the funnel flanges which aid installation.

MATERIAL: See table.

FINISH: Simpson gray paint. Hot-dip galvanized available; specify HDG.

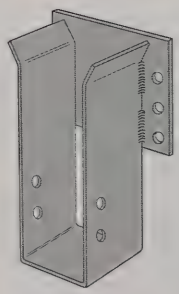
INSTALLATION: • Use all specified fasteners. See General Notes.

OPTIONS: • See Hanger Options.

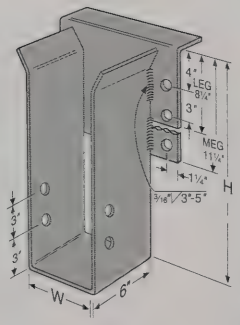
- Special models are available without top flanges; see table loads.

CODE: ICBO 5117; City of L.A. RR 24947.

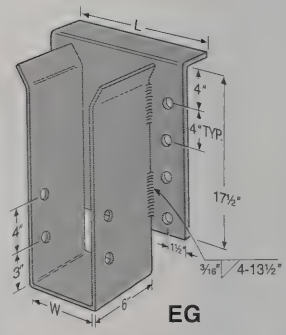
Model	Top Flange Ga	Top Flange Length (L)
LEG/MEG	7	12
EG5	3	11¾
EG7		13½
EG9		15½



MEG without Top Flange



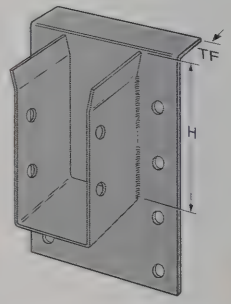
LEG and MEG



EG

Joist or Purlin Size	Model No.	Stirrup Ga	Dimensions W	Min H	TF	Bolts Header Qty	Header Dia	Joist Qty	Joist Dia	Down Avg Ult	Allowable Loads Without Top Flange Floor (100)	Without Top Flange Roof (125)	No Triangle Theory Floor (100)	No Triangle Theory Roof (125)	Triangle Theory Floor (100)	Triangle Theory Roof (125)
3⅛ LAM	LEG3	7	3¼	9	2½	4	¾	2	¾	51000	3465	4330	12675	13215	11865	12730
5⅛ LAM	LEG5	7	5¼	9	2½	4	¾	2	¾	51000	3465	4330	16290	16290	11865	12730
	MEG5	7	5¼	9	2½	6	¾	2	¾	61540	5170	6460	19710	19710	13570	14865
	EG5	7	5¼	11	2½	8	1	2	1	82830	8870	11085	20895	21815	17095	19310
6¾ LAM	LEG7	7	6⅞	9	2½	4	¾	2	¾	51000	3465	4330	16290	16290	11865	12730
	MEG7	7	6⅞	9	2½	6	¾	2	¾	61540	5170	6460	19710	19710	13570	14865
	EG7	7	6⅞	11	2½	8	1	2	1	82830	8870	11085	25320	25835	17095	19310
8¾ LAM	EG9	7	8⅞	11	2½	8	1	2	1	82830	8870	11085	25320	25835	17095	19310

1. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for other load durations according to the code, provided they do not exceed those in the roof column.
2. Allowable loads assume a carrying member of 5½".
3. "Min H" is the minimum H dimension that may be specified.



EG with "H" dimension less than the face plate height. The EG's back plate is always 17½", regardless of the stirrup height.

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Top Flange Hangers - Glulam Beam

Joist or Purlin Size	Model No.	Ga	Dimensions				Fasteners		Down Avg Ult	Allowable Loads				
			W	H	B	TF	Header	Joist		Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)
3⅛ LAM	GLT3	7	3¼	7½ MIN	5	2½	10-N54A	6-N54A	21417	1455	1745	7000	7000	7000
	HGLT3	7	3¼	7½ MIN	6	2½	18-N54A	6-N54A	39083	1455	1745	11590	11755	11865
	GLS3-5	7	3¼	8½ MIN	5	5¼	6-N54A	6-N54A	44533	1455	1745	9790	9965	10080
	GLST3-5	7	3¼	9 MIN	6½	5¼	6-N54A	6-N54A	44533	1455	1745	12465	12630	12740
	GLS3-7	7	3¼	8½ MIN	5	6⅞	6-N54A	6-N54A	44533	1455	1745	9840	10005	10115
	GLST3-7	7	3¼	9 MIN	6½	6⅞	6-N54A	6-N54A	44533	1455	1745	12465	12630	12740
	GLS3-9	7	3¼	8½ MIN	5	8⅞	6-N54A	6-N54A	44533	1455	1745	9840	10005	10115
	GLST3-9	7	3¼	9 MIN	6½	8⅞	6-N54A	6-N54A	44533	1455	1745	12465	12630	12740
	HW3.25	11	3¼	5 MIN	4	2½	4-10d	2-10d	18333	—	—	5285	5285	5285
	HHB3	7	3¼	7½ MIN	3	2½	10-N54A	6-N54A	19100	1455	1745	6105	6235	6235
	GB3	7	3¼	7½ MIN	3½	2½	14-N54A	6-N54A	26833	1455	1745	7215	7380	7490
	HU3.25/12TF	12	3¼	12	2½	2½	16-16d	6-10d	13667	935	1125	4310	4335	4335
	HU3.25/16.5TF	12	3¼	16½	2½	2½	20-16d	8-10d	19500	1250	1500	4860	5275	5545
5⅛ LAM	GLT5	7	5¼	7½ MIN	5	2½	10-N54A	6-N54A	21417	1455	1745	7000	7000	7000
	HGLT5	7	5¼	7½ MIN	6	2½	18-N54A	6-N54A	39083	1455	1745	11930	12455	12750
	GLS5-5	7	5¼	8½ MIN	5	5¼	6-N54A	6-N54A	44533	1455	1745	13080	13080	13080
	GLST5-5	7	5¼	9 MIN	6½	5¼	6-N54A	6-N54A	44533	1455	1745	14685	14685	14685
	GLS5-7	7	5¼	8½ MIN	5	6⅞	6-N54A	6-N54A	44533	1455	1745	13080	13080	13080
	GLST5-7	7	5¼	9 MIN	6½	6⅞	6-N54A	6-N54A	44533	1455	1745	14685	14685	14685
	HGLS5	7	5¼	10½ MIN	6	SPEC	14-N54A	8-N54A	51333	1940	2330	16835	16835	16835
	HGLST5	7	5¼	10½ MIN	6½	SPEC	14-N54A	8-N54A	51333	1940	2330	16835	16835	16835
	HW5.25	11	5¼	5 MIN	2½	2½	4-10d	2-10d	16783	—	—	5285	5285	5285
	HHB5	7	5¼	7½ MIN	3	2½	10-N54A	6-N54A	19100	1455	1745	6105	6235	6235
	GB5	7	5¼	7½ MIN	3½	2½	14-N54A	6-N54A	26833	1455	1745	7370	7640	8005
	HGB5	7	5¼	7½ MIN	4	2½	14-N54A	6-N54A	30300	1455	1745	7885	8265	8520
	HU5.25/12TF	12	5¼	12	2½	2½	16-16d	6-16d	13667	1105	1325	4310	4335	4335
	HU5.25/16.5TF	12	5¼	16½	2½	2½	20-16d	8-16d	19500	1470	1765	4860	5275	5550
6¾ LAM	HHB7	7	6⅞	7½ MIN	3	2½	10-N54A	6-N54A	19100	1455	1745	6105	6235	6235
	GB7	7	6⅞	7½ MIN	3½	2½	14-N54A	6-N54A	26833	1455	1745	7370	7750	8005
	HGB7	7	6⅞	7½ MIN	4	2½	14-N54A	6-N54A	30300	1455	1745	7885	8265	8520
	GLT7	7	6⅞	7½ MIN	5	2½	10-N54A	6-N54A	21417	1455	1745	7000	7000	7000
	HGLT7	7	6⅞	7½ MIN	6	2½	18-N54A	6-N54A	39083	1455	1745	11930	12455	12750
	GLS7-7	7	6⅞	8½ MIN	5	6⅞	6-N54A	6-N54A	44533	1455	1745	14040	14040	14040
	GLST7-7	7	6⅞	9 MIN	6½	6⅞	6-N54A	6-N54A	44533	1455	1745	14685	14685	14685
	GLS7-9	7	6⅞	8½ MIN	5	8⅞	6-N54A	6-N54A	44533	1455	1745	14040	14040	14040
	GLST7-9	7	6⅞	9 MIN	6½	8⅞	6-N54A	6-N54A	44533	1455	1745	14685	14685	14685
	HGLS7	7	6⅞	10½ MIN	6	SPEC	14-N54A	8-N54A	51333	1940	2330	16835	16835	16835
	HGLST7	7	6⅞	10½ MIN	6½	SPEC	14-N54A	8-N54A	51333	1940	2330	16835	16835	16835
8¾ LAM	HGLT9	7	8⅞	7½ MIN	6	2½	18-N54A	6-N54A	39083	1455	1745	12750	12750	12750
	HGLS9	7	8⅞	10½ MIN	6	SPEC	14-N54A	8-N54A	51333	1940	2330	16835	16835	16835
	HGLST9	7	8⅞	10½ MIN	6½	SPEC	14-N54A	8-N54A	51333	1940	2330	16835	16835	16835

1. N54A fasteners are supplied with hangers.
2. Roof loads are 125% of floor loads unless limited by other criteria.
3. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading such as in cantilever construction.
4. GLT, HGLT, GLS, HGLS uplift loads only apply when "H" is 28" or less.
5. Allowable loads for glulam sizes are based on 560 psi wood bearing.
6. Maximum allowable horizontal load for the GLST/HGLST is 13080 lbs (133) and 14580 lbs (160). Load is horizontal across the supporting member and independent of vertical loads and includes a 33% and 60% increase for earthquake or wind loading with no further increase allowed.
7. "Min H" is the minimum H dimension that may be specified.
8. GLS and HGLS loads must be distributed evenly on each side of the header.

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FACE MOUNT HANGERS U/HU *STANDARD JOIST HANGERS*

See Hanger tables on page 101. See Hanger Options on pages 140 and 142 for hanger modifications, which may result in reduced loads.

U—The standard U hanger provides flexibility of joist to header installation. Versatile fastener selection with tested allowable loads.

HU—Most models have triangle and round holes. To achieve maximum loads, fill both round and triangle holes with common nails. These heavy-duty connectors are designed for schools and other structures requiring additional strength, longevity and safety factors.

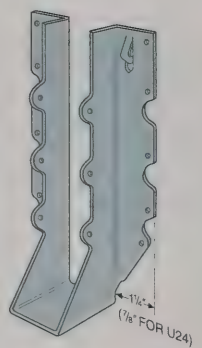
MATERIAL: See tables on page 101.

FINISH: Galvanized

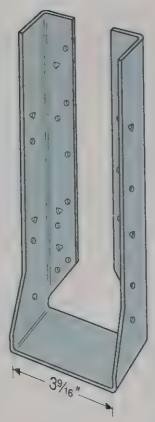
INSTALLATION: • Use all specified fasteners. See General Notes.
- HU—can be installed filling round holes only, or filling round and triangle holes for maximum values.

OPTIONS: • HU hangers available with the header flanges turned in for 2-2x (3⅛") and larger widths, with no load reduction–order HUC hanger.
- See Hanger Options on page 142, for sloped and/or skewed U/HU models, and HUC (concealed flange) models.
- HU only—rough beam sizes available by special order.
- See also HUS series.

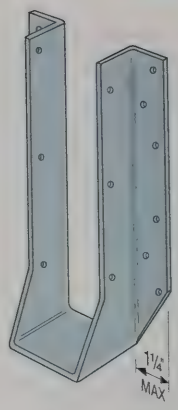
CODES: ICBO 5117; City of L.A. RR 24947, RR 24818; Dade Co., FL 98-1021.01.



U210



HUC412
Concealed Flanges



HU214
Projection seat on most models for maximum bearing and section economy.

Model configurations may differ from those shown. Some HU models do not have triangle holes. Consult factory for details.

FACE MOUNT HANGERS LUS/HUS/HHUS/HGUS *DOUBLE SHEAR JOIST HANGERS*

See Hanger tables on page 101. See Hanger Options on pages 140 and 142 for hanger modifications, which may result in reduced loads.

These hangers have the highest loads of any face mount hangers!

All hangers in this series have double shear nailing. This patented innovation distributes the load through two points on each joist nail for greater strength. It also allows the use of fewer nails, faster installation, and the use of common nails for all connections. (Do not bend or remove tabs)

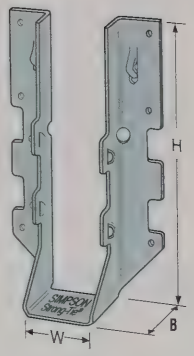
MATERIAL: See tables, page 101.

FINISH: Galvanized. Some products available in stainless steel or Z-MAX; see Corrosion-Resistance, page 5.

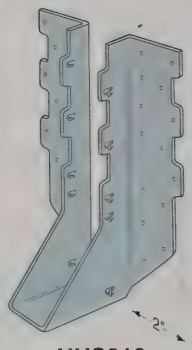
INSTALLATION • Use all specified fasteners. See General Notes.
- Nails must be driven at an angle through the joist or truss into the header to achieve the table loads.
- Not designed for welded or nailer applications.
- 16d sinkers (9 gauge x 3¼") may be used where 10d commons are specified with no reduction in load. Where 16d commons are specified, 10d commons or 16d sinkers (9 gauge x 3¼") may be used at 0.84 of the table load.
- With 3x carrying members, use 16d x 2½" nails into the header and 16d commons into the joist with no load reduction. With 2x carrying members, use 10d x 1½" nails into the header and 10d commons into the joist, and reduce the load to 0.64 of the table value.

OPTIONS: • LUS hangers cannot be modified.
- HUS hangers available with the header flanges turned in for 2-2x (3⅛") and 4x only, with no load reduction. See HUSC Concealed Flange illustration.
- Concealed flanges are not available for HGUS and HHUS.
- See Hanger Options, page 142, for sloped and/or skewed HHUS models.
- Other sizes available; consult your Simpson representative.

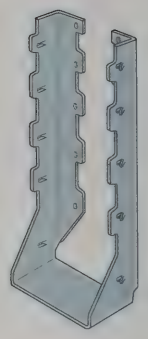
CODES: BOCA, ICBO, SBCCI Nos. NER-209, NER-413, NER-421, NER-499; City of L.A. RR 24949 and RR 25076; Dade County No. 98-0724.06.



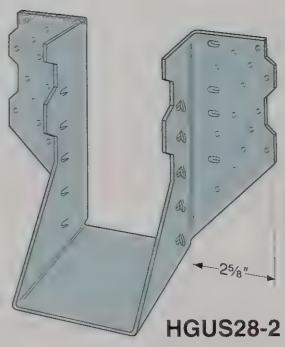
LUS28



HUS210
(HUS26, HUS28, and HHUS similar)

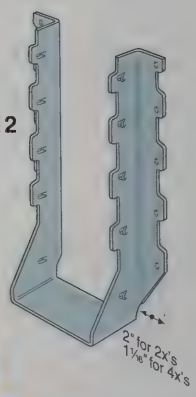


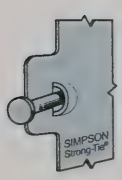
HUSC
Concealed Flanges (not available for HHUS, HGUS and HUS2x)



HGUS28-2

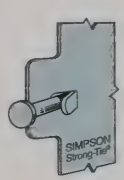
HUS412





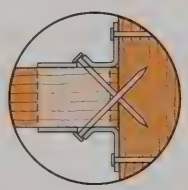
Dome Double Shear Nailing prevents tabs breaking off (available on some models)

U.S. Patent 5,603,580



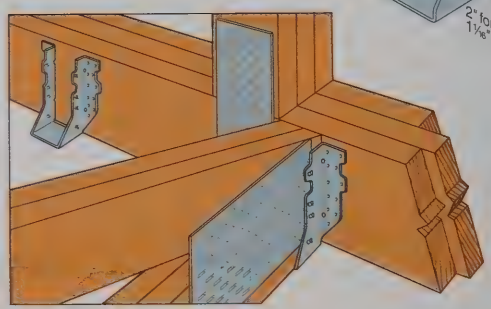
Double Shear Nailing Side View

U.S. Patent 4,291,996



Double Shear Nailing Top View

U.S. Patent 4,480,941
Canada Patent 1,193,418



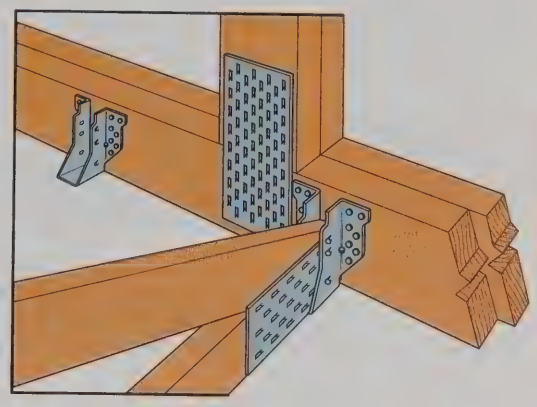
Typical HHUS28-2 Installation

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Face Mount Hangers - Plated Truss Products

Model No.	Min. Heel Height	Fasteners		Doug-Fir Larch/So. Pine Allowable Loads				Spruce-Pine-Fir Allowable Loads			
		Carrying Member	Carried Member	Uplift (133)	Floor (100)	Snow (115)	Const (125)	Uplift (133)	Floor (100)	Snow (115)	Const (125)
HUS26	3½	6-16d	4-16d	1135	1265	1455	1580	925	1050	1210	1315
	3½	10-16d	4-16d	1135	1800	2070	2245	925	1510	1735	1890
	4⅝	14-16d	6-16d	1550	2565	2950	3205	1390	2155	2480	2540

HUS26 with Reduced Heel Height



Typical HUS Installation with Reduced Heel Height

Model No.	Min. Heel Height	Ga	Dimensions			Fasteners	
			W	H	B	Carrying Member	Carried Member
SINGLE 2x SIZES							
LUS24	2⅝	18	1⅜	3⅛	1¼	4-10d	2-10d
LUS26	4¼		1⅜	4¾	1¼	4-10d	4-10d
HUS26	4⅝	16	1⅜	5⅛	3	14-16d	6-16d
HGUS26	4½	12	1⅜	5⅝	5	20-16d	8-16d
HGUS28	5½	12	1⅜	7⅛	5	36-16d	10-16d
LUS28	4⅜	18	1⅜	6⅝	1¼	6-10d	4-10d
HUS28	6½	16	1⅜	7	3	22-16d	8-16d
LUS210	4¼	18	1⅜	7⅜	1¼	8-10d	4-10d
HUS210	8⅜	16	1⅜	9	3	30-16d	10-16d

Model No.	Avg Ult	Doug Fir-Larch Allowable Loads					Southern Pine Allowable Loads					Spruce-Pine-Fir Allowable Loads				
		Uplift[1] (133)	Uplift[1] (160)	Floor (100)	Snow (115)	Const (125)	Uplift[1] (133)	Uplift[1] (160)	Floor (100)	Snow (115)	Const (125)	Uplift[1] (133)	Uplift[1] (160)	Floor (100)	Snow (115)	Const (125)
SINGLE 2x SIZES																
LUS24	3850	465	490	640	735	800	490	490	690	795	865	390	465	540	625	675
LUS26	5167	930	1115	830	955	1040	1010	1165	900	1035	1125	780	935	700	805	875
HUS26	10000	1550	1550	2565	2950	3205	1550	1550	2785	3200	3325	1390	1550	2155	2475	2540
HGUS26	14178	1425	1425	3755	3905	3905	1425	1425	3905	3905	3905	1425	1425	3185	3585	3585
HGUS28	16188	1755	1755	5055	5055	5055	1755	1755	5055	5055	5055	1755	1755	4030	4155	4215
LUS28	6066	930	1115	1055	1210	1320	1010	1165	1140	1310	1425	780	935	890	1025	1115
HUS28	13167	2000	2000	3585	3700	3775	2000	2000	3380	3505	3585	1855	2000	2580	2680	2745
LUS210	7750	930	1115	1275	1470	1595	1010	1165	1380	1590	1725	780	935	1085	1245	1355
HUS210	18833	2845	3000	3775	3920	4020	3000	3000	3585	3745	3850	2320	2780	2745	2870	2955

Model No.	Min. Heel Height	Ga	Dimensions			Fasteners		Avg Ult	Doug Fir-Larch/Southern Pine Allowable Loads					Spruce-Pine-Fir Allowable Loads				
			W	H	B	Carrying Member	Carried Member		Uplift[1] (133)	Uplift[1] (160)	Floor (100)	Snow (115)	Const (125)	Uplift[1] (133)	Uplift[1] (160)	Floor (100)	Snow (115)	Const (125)
DOUBLE 2x SIZES																		
LUS24-2	2⅝	18	3⅛	3⅛	2	4-16d	2-16d	5303	565	565	765	880	960	465	555	640	735	800
LUS26-2	4⅜	18	3⅛	4⅞	2	4-16d	4-16d	6076	1140	1165	1000	1150	1250	925	1115	820	945	1025
HHUS26-2	4⅝	14	3⅝	5	3	14-16d	6-16d	14667	1550	1550	2580	2965	3225	1395	1550	2165	2490	2710
HGUS26-2	4½	12	3⅝	5⅝	4	20-16d	8-16d	14667	2000	2000	3755	4320	4695	1865	2000	3185	3660	3980
LUS28-2	4⅜	18	3⅛	7	2	6-16d	4-16d	7750	1140	1165	1265	1455	1585	925	1115	1050	1210	1315
HHUS28-2	6½	14	3⅝	6⅞	3	22-16d	8-16d	19850	2000	2000	3885	4465	4855	1860	2000	3275	3765	4095
HGUS28-2	5½	12	3⅝	7⅛	4	36-16d	10-16d	25180	2650	2650	6245	7185	7810	2330	2650	5335	6070	6150
LUS210-2	6⅞	18	3⅛	9	2	8-16d	6-16d	10907	1550	1550	1765	2030	2210	1390	1550	1465	1680	1830
HHUS210-2	8⅜	14	3⅝	8⅞	3	30-16d	10-16d	22167	2855	3000	5190	5900	5900	2330	2795	4385	4795	4875
HGUS210-2	7½	12	3⅝	9⅛	4	46-16d	12-16d	28333	3415	3665	7890	8110	8225	2795	3355	6110	6260	6360
TRIPLE 2x SIZES																		
HGUS26-3	4½	12	4⅛	4½	4	20-16d	8-16d	14667	2000	2000	3755	4320	4695	1865	2000	3185	3660	3980
HGUS28-3	5¾	12	4⅛	7⅛	4	36-16d	10-16d	25180	2650	2650	6245	7185	7810	2330	2650	5335	6135	6665
HGUS210-3	7⅛	12	4⅛	9⅛	4	46-16d	12-16d	28333	3415	3665	7890	8665	8665	2795	3355	6745	7755	8430
HHUS210-3	8½	14	4⅛	9	3	30-16d	10-16d	22167	2855	3430	5190	5900	5900	2330	2795	4385	5040	5480
QUADRUPLE 2x SIZES																		
HHUS210-4	8¼	14	6⅛	8⅞	3	30-16d	10-16d	22167	2855	3430	5190	5900	5900	2330	2795	4385	5040	5480
4x SIZES																		
LUS46	4⅜	18	3⅜	4¾	2	4-16d	4-16d	6076	1140	1165	1000	1150	1250	925	1115	820	945	1025
HGUS46	4⅞	12	3⅝	4⅞	4	20-16d	8-16d	25180	2275	2735	3755	4320	4695	1865	2000	3185	3660	3980
HHUS46	4⅝	14	3⅝	5⅛	3	14-16d	6-16d	14667	1550	1550	2580	2965	3225	1395	1550	2165	2490	2710
LUS48	4⅜	18	3⅜	6¾	2	6-16d	4-16d	7750	1140	1165	1265	1455	1585	925	1115	1050	1210	1315
HUS48	6⅛	14	3⅜	7	2	6-16d	6-16d	11190	1550	1550	1505	1730	1885	1315	1550	1240	1425	1550
HHUS48	6½	14	3⅝	7	3	22-16d	8-16d	19850	2000	2000	3885	4465	4855	1860	2000	3275	3765	4095
HGUS48	5⅞	12	3⅝	7⅛	4	36-16d	10-16d	25180	2650	2650	6245	7185	7810	2330	2650	5335	6135	6665
LUS410	6¼	18	3⅜	8¾	2	8-16d	6-16d	10906	1550	1550	1765	2030	2210	1390	1550	1465	1680	1830
HHUS410	8⅜	14	3⅝	9	3	30-16d	10-16d	22167	2855	3430	5190	5900	5900	2330	2795	4385	5040	5480
HGUS410	7⅞	12	3⅝	9	4	46-16d	12-16d	28333	3415	3665	7890	8665	8665	2795	3355	6745	7110	7210
HGUS412	9⅞	12	3⅝	10⅞	4	56-16d	14-16d	35000	3985	4780	9365	10305	10440	3260	3910	7130	7305	7425
HGUS414	11⅞	12	3⅝	12⅞	4	66-16d	16-16d	35000	4555	5000	10295	10525	10680	3725	4470	7295	7500	7635

1. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Reduce by 33% and 60% for normal loading as in cantilever construction.

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THA/THAC ADJUSTABLE TRUSS HANGERS

The THA series' extra long straps allow full code nailing and can be field-formed to give top flange hanger convenience.

MATERIAL: See table.

FINISH: Galvanized

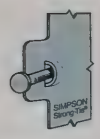
INSTALLATION: • Use all specified fasteners. See General Notes.

- With single 2x carrying members, use 10dx1½" nails into the carrying member, and 10d or 16d commons into the carried member, and use 0.81 of the table value for 18 gauge, and 0.68 of the table value for 16 gauge.
- **Two different installation methods may be used:**

  Maximum nailing–Install all face nails according to the table. Nails used for the joist attachment must be driven at an angle so that they penetrate through the corner of the joist into the header.

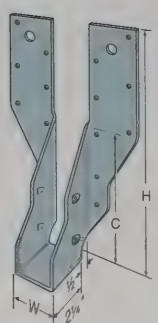
  Minimum nailing–For the THA29, the minimum nailing schedule requires the use of joist double shear nailing as detailed above, and that the strap be field-formed over the header a minimum of 2½". A minimum of four top and four face nails must be used.
- For all models except the THA29, the minimum nailing schedule may be followed where double shear nailing is not possible, provided the strap is field-formed over the top of the header a minimum of 1½" for the THA213 and THA413, and 2" for all others, and a minimum of four top and two face nails are used. The joist double shear nailing tabs are easily straightened so that the nails can be driven straight into the joist.

CODES: BOCA, ICBO, SBCCI NER-209; City of L.A. RR 24949; Dade Co., FL 98-0724.06.



Dome Double Shear Nailing prevents tabs breaking off (available on some models)

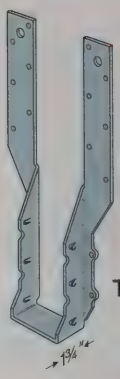
U.S. Patent 5,603,580



THA29



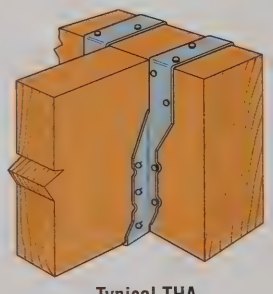
THAC422



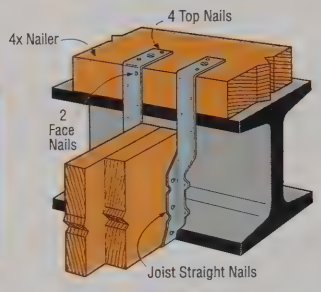
THA



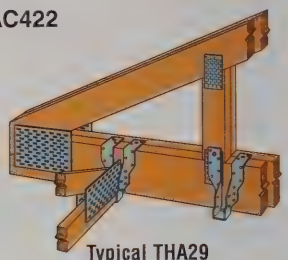
Double Shear Nailing Side View



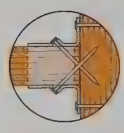
Typical THA Installation with a 4x2 floor truss



Typical THA Minimum Nailing Configuration on a 4x Nailer (except THA29)



Typical THA29 Minimum Nailing Installation

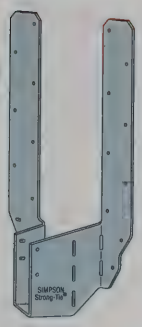


Double Shear Nailing Top View
U.S. Patent 4,480,941
Canada Patent 1,193,41

Minimum Carried Member	Model No.	Ga	Dimensions W	Dimensions H	Dimensions C	Fasteners[1] Carrying Member Top	Fasteners[1] Carrying Member Face	Fasteners[1] Carried Member Straight	Fasteners[1] Carried Member Slant	Down Avg Ult	Doug-Fir-Larch/Southern Pine Allowable Loads Uplift[2] (133 & 160)	Doug-Fir-Larch/Southern Pine Allowable Loads Floor (100)	Doug-Fir-Larch/Southern Pine Allowable Loads Snow (115)	Doug-Fir-Larch/Southern Pine Allowable Loads Roof (125)	Spruce-Pine-Fir Allowable Loads Uplift[2] (133 & 160)	Spruce-Pine-Fir Allowable Loads Floor (100)	Spruce-Pine-Fir Allowable Loads Snow (115)	Spruce-Pine-Fir Allowable Loads Roof (125)
MINIMUM NAILING—TOP FLANGE																		
2x4	THA29	18	1⅝	9 1⁄16	5⅛	4-10d	4-10d	—	4-10d	8167	750	2260	2310	2350	750	1740	1785	1815
2x6	THA213	18	1⅝	13 5⁄16	5½	4-10d	2-10d	4-10dx1½	—	5343	—	1615	1615	1615	—	1280	1280	1280
2x6	THA218	18	1⅝	17 3⁄16	5½	4-10d	2-10d	4-10dx1½	—	5343	—	1615	1615	1615	—	1280	1280	1280
(2)2x10	THA218-2	16	3⅛	17 1⁄16	8	4-16d	2-16d	6-16dx2½	—	5085	—	1635	1635	1635	—	1465	1465	1465
(2)2x10	THA222-2	16	3⅛	22 3⁄16	8	4-16d	2-16d	6-16dx2½	—	5085	—	1635	1635	1635	—	1465	1465	1465
4x2truss	THAC422	16	3⅝	22	7⅞	4-16d	2-16d	6-16d	—	5085	—	1635	1635	1635	—	1465	1465	1465
4x2truss	THA426	14	3⅝	26	7⅞	4-16d	4-16d	6-16d	—	8720	—	2425	2425	2425	—	1940	1940	1940
4x2truss	THAC426	14	3⅝	26	7⅞	4-16d	4-16d	6-16d	—	8720	—	2425	2425	2425	—	1940	1940	1940
(2)4x2truss	THA422-2	14	7¼	22 1⁄16	9¾	4-16d	4-16d	6-16d	—	8727	—	2810	2810	2810	—	2260	2260	2260
(2)4x2truss	THAC422-2	14	7¼	22 1⁄16	9¾	4-16d	4-16d	6-16d	—	8727	—	2810	2810	2810	—	2260	2260	2260
(2)4x2truss	THA426-2	14	7¼	26 1⁄16	9¾	4-16d	4-16d	6-16d	—	8727	—	2810	2810	2810	—	2260	2260	2260
(2)4x2truss	THAC426-2	14	7¼	26 1⁄16	9¾	4-16d	4-16d	6-16d	—	8727	—	2810	2810	2810	—	2260	2260	2260
MAXIMUM NAILING—ALL NAIL HOLES FILLED																		
2x4	THA29	18	1⅝	9 1⁄16	5⅛	—	16-10d	—	4-10d	8250	750	2125	2310	2350	750	1740	1785	1815
2x6	THA213	18	1⅝	13 5⁄16	5½	—	14-10d	—	4-10d	7983	930	1795	1840	1870	780	1385	1425	1450
2x6	THA218	18	1⅝	17 3⁄16	5½	—	18-10d	—	4-10d	9120	930	1795	1840	1870	780	1385	1425	1450
(2)2x10	THA218-2	16	3⅛	17 1⁄16	8	—	16-16d	—	6-16d	11500	1550	2830	3050	3050	1355	2385	2740	2820
(2)2x10	THA222-2	16	3⅛	22 3⁄16	8	—	22-16d	—	6-16d	13067	1550	3510	3595	3650	1355	2705	2775	2820
4x2truss	THAC422	16	3⅝	22	7⅞	—	22-16d	—	6-16d	13067	1550	3630	4090	4145	1355	3075	3145	3195
4x2truss	THA426	14	3⅝	26	7⅞	—	30-16d	—	6-16d	14836	1715	4020	4625	4655	1355	3480	4000	4030
4x2truss	THAC426	14	3⅝	26	7⅞	—	30-16d	—	6-16d	14836	1715	4020	4625	4655	1355	3480	4000	4030
(2)4x2truss	THA422-2	14	7¼	22 1⁄16	9¾	—	30-16d	—	6-16d	18283	1715	4720	5430	5525	1395	4025	4420	4420
(2)4x2truss	THAC422-2	14	7¼	22 1⁄16	9¾	—	30-16d	—	6-16d	18283	1715	4720	5430	5525	1395	4025	4420	4420
(2)4x2truss	THA426-2	14	7¼	26 1⁄16	9¾	—	38-16d	—	6-16d	18283	1715	4695	4695	4695	1395	3255	3255	3255
(2)4x2truss	THAC426-2	14	7¼	26 1⁄16	9¾	—	38-16d	—	6-16d	18283	1715	4695	4695	4695	1395	3255	3255	3255

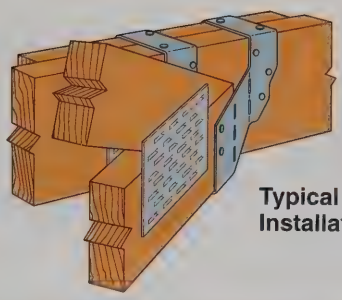
1. 16d sinkers may be used to replace 16d commons at 0.85 of table load.
2. Uplift has been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce for other load conditions as required by code.
3. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for load durations according to the code, provided they do not exceed those in the roof column.
4. 160% uplift load for THA422-2 and THAC422-2 is 2060 lbs.

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NEW

THASL218



Typical THASL218 Installation

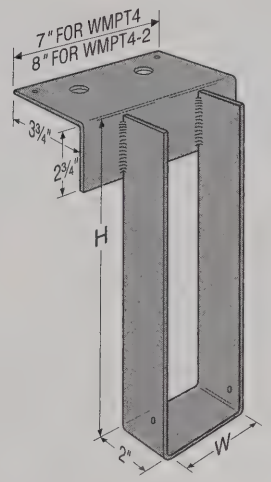
Minimum Carried Member	Model No.	Ga	Dimensions W	H	C	Fasteners[1] Carrying Member Top	Carrying Member Face	Carried Member Straight	Carried Member Slant	Down Avg Ult	Doug-Fir-Larch/Southern Pine Allowable Loads Uplift[2] (133 & 160)	Floor (100)	Snow (115)	Roof (125)	Spruce-Pine-Fir Allowable Loads Uplift[2] (133 & 160)	Floor (100)	Snow (115)	Roof (125)
FACTORY SKEW 45°																		
NEW 2x Truss	THASR/L218 Min	18	1⅝	18	5¼	4-10d	6-10d	4-10dx1½	—	4762	—	1420	1420	1420	—	1220	1220	1220
NEW 2x Truss	THASR/L218 Max	18	1⅝	18	5¼	—	14-10d	4-10dx1½	—	4762	—	1420	1420	1420	—	1220	1220	1220
NEW 2-2x Truss	THASR/L218-2 Min	18	3⅛	18	5¼	4-10d	6-10d	4-10dx1½	—	4342	—	1050	1050	1050	—	905	905	905
NEW 2-2x Truss	THASR/L218-2 Max	18	3⅛	18	5¼	—	12-10d	4-10dx1½	—	4342	—	1050	1050	1050	—	905	905	905
FIELD SKEW 46° TO 84°																		
NEW 2x Truss	THASR/L218 Min	18	1⅝	18	5¼	4-10d	6-10d	4-10dx1½	—	6133	—	1155	1155	1155	—	995	995	995
NEW 2x Truss	THASR/L218 Max	18	1⅝	18	5¼	—	12-10d	4-10dx1½	—	6133	—	1155	1155	1155	—	995	995	995
NEW 2-2x Truss	THASR/L218-2 Min	18	3⅛	18	5¼	4-10d	6-10d	4-10dx1½	—	6050	—	1070	1070	1070	—	920	920	920
NEW 2-2x Truss	THASR/L218-2 Max	18	3⅛	18	5¼	—	12-10d	4-10dx1½	—	6050	—	1070	1070	1070	—	920	920	920

TOP FLANGE HANGERS WPT/WNPPT/WMPT

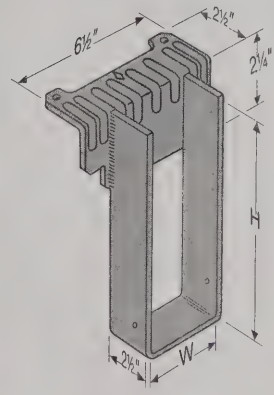
MATERIAL: See tables on page 104.
FINISH: Simpson gray paint; hot-dipped galvanized available: specify HDG.
ALLOWABLE LOADS: For hanger heights exceeding the joist height, the allowable load is 0.50 of the table load.
INSTALLATION: • Use all specified fasteners.

- Hangers may be welded to steel headers with ⅛" for WPT, and ¼" for HW, by 1½" fillet welds located at each end of the top flange. Weld-on applications produce maximum allowable load listed. Uplift loads do not apply to this application.
- Hangers can support multi-ply carried members; the individual members must be secured together to work as a single unit before installation into the hanger.
- H dimensions are sized to account for normal joist shrinkage. W dimensions are for dressed timber widths.

OPTIONS: **• See Hanger Options, page 143 for hanger modifications and associated load reductions.**
CODES: ICBO 5117; BOCA, ICBO, SBCCI NER-209. City of L.A. RR24947 and RR24949; Dade Co FL. 98-1021.01.



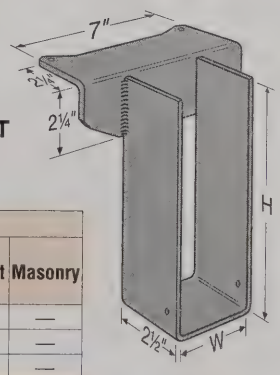
WMPT



WPT

Model	Nailer	Top Flange Nailing	Allowable Loads DF/SP	SPF	LSL
WPT	2x	2-10dx1½	1600	1600	—
	3x	2-16dx2½	1765	1740	—
	2-2x	2-10d	1665	1665	—
	4x	2-10d	2200	2200	—
WNPPT	2x	2-10dx1½	2525	2500	3375
	3x	2-16dx2½	3000	2510	3375
	2-2x	2-10d	3255	3255	—
	4x	2-10d	3255	3255	—

NAILER TABLE
The table indicates the maximum allowable loads for W, WP, WNP and HW hangers used on wood nailers. Nailers are wood members attached to the top of a steel I-beam, concrete or masonry wall. This table also applies to sloped-seat hangers.



WNPPT

Model	Joist Width	Joist Depth	Fasteners Top	Face	Joist	Allowable Loads Header Type Uplift (133 & 160)	LVL	PSL	LSL	DF/SP	SPF	I-Joist	Masonry
WPT	1½ to 4	3½ to 30	2-10dx1½	—	2-10dx1½	—	1635	1740	—	1600	1415	—	—
	1½ to 4	3½ to 30	2-10d	—	2-10dx1½	—	2150	2020	—	2200	1435	—	—
	1½ to 4	3½ to 30	2-16d	—	2-10dx1½	—	2335	1950	2335	1765	1435	—	—
WMPT	1½ to 7½	3½ to 30	2-16d DPLX	—	2-10dx1½	—	—	—	—	—	—	—	4175
WNPPT	1½ to 7½	3½ to 30	3-10dx1½	—	2-10dx1½	—	2865	3250	—	2500	2000	2030	—
	1½ to 7½	3½ to 30	3-10d	—	2-10dx1½	—	2525	3250	3650	3255	2525	—	—
	1½ to 7½	3½ to 30	3-16d	—	2-10dx1½	—	3635	3320	3650	3255	2600	—	—

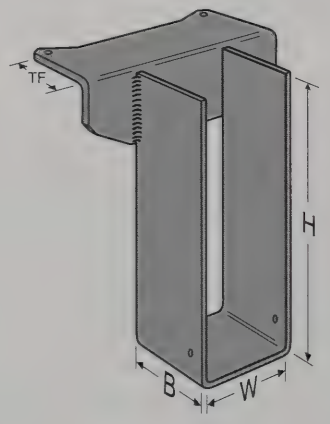
1. 10d roofer nails (.148 x 2⅛) may be substituted for 10d commons in W hangers; no load reduction.
2. 16d sinkers (9 ga x 3") may be used where 10d commons are called out with no load reduction.
3. Uplift loads have been increased 33% and 60% for wind or earthquake loading; no further increase allowed. Reduce by 33% and 60% for normal loading like cantilever construction.

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Top Flange Hangers - Plated Truss

Model No.	Ga	Dimensions				Fasteners		Avg Ult	Doug-Fir-Larch/Southern Pine Allowable Loads				Spruce-Pine-Fir Allowable Loads			
		W	H	B	TF	Carrying Member	Carried Member		Floor (100)	Snow (115)	Roof (125)	Wind (133)	Floor (100)	Snow (115)	Roof (125)	Wind (133)
WPT2	12	1⅝	3⁷⁄₁₆	2½	2½	2-10d	2-10dx1½	7883	2200	2200	2200	2200	1435	1435	1435	1435
WMPT2	12	1⅝	3⁷⁄₁₆	2	3¾	2-16d DPLX	2-10dx1½	15650	1890	1920	1940	1955	1445	1470	1485	1500
WPT26	12	1⅝	6	2½	2½	2-10d	2-10dx1½	7883	2200	2200	2200	2200	1435	1435	1435	1435
WMPT26	12	1⅝	6	4½	3¾	2-16d DPLX	2-10dx1½	15650	1890	1920	1940	1955	1445	1470	1485	1500
WPT28	12	1⅝	8	2½	2½	2-10d	2-10dx1½	7883	2200	2200	2200	2200	1435	1435	1435	1435
WMPT28	12	1⅝	8	4½	3¾	2-16d DPLX	2-10dx1½	15650	1890	1920	1940	1955	1445	1470	1485	1500
WPT210	12	1⅝	10	2½	2½	2-10d	2-10dx1½	7883	2200	2200	2200	2200	1435	1435	1435	1435
WMPT210	12	1⅝	10	4½	3¾	2-16d DPLX	2-10dx1½	15650	1890	1920	1940	1955	1445	1470	1485	1500
WPT212	12	1⅝	12	2½	2½	2-10d	2-10dx1½	7883	2200	2200	2200	2200	1435	1435	1435	1435
WMPT212	12	1⅝	12	4½	3¾	2-16d DPLX	2-10dx1½	15650	1890	1920	1940	1955	1445	1470	1485	1500
WPT214	12	1⅝	14	2½	2½	2-10d	2-10dx1½	7883	2200	2200	2200	2200	1435	1435	1435	1435
WMPT214	12	1⅝	14	4½	3¾	2-16d DPLX	2-10dx1½	15650	1890	1920	1940	1955	1445	1470	1485	1500
WPT216	12	1⅝	16	2½	2½	2-10d	2-10dx1½	7883	2200	2200	2200	2200	1435	1435	1435	1435
WMPT216	12	1⅝	16	4½	3¾	2-16d DPLX	2-10dx1½	15650	1890	1920	1940	1955	1445	1470	1485	1500
WNPPT2-2	12	3⁵⁄₁₆	3⁷⁄₁₆	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT2-2	12	3⁵⁄₁₆	3⁷⁄₁₆	2	3¾	2-16d DPLX	2-10d	15650	3635	3675	3700	3720	2765	2795	2820	2835
WNPPT26-2	12	3⁵⁄₁₆	6	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT26-2	12	3⁵⁄₁₆	6	2½	3¾	2-16d DPLX	2-10d	15650	3635	3675	3700	3720	2765	2795	2820	2835
WNPPT28-2	12	3⁵⁄₁₆	8	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT28-2	12	3⁵⁄₁₆	8	2½	3¾	2-16d DPLX	2-10d	15650	3635	3675	3700	3720	2765	2795	2820	2835
WNPPT210-2	12	3⁵⁄₁₆	10	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT210-2	12	3⁵⁄₁₆	10	2½	3¾	2-16d DPLX	2-10d	15650	3635	3675	3700	3720	2765	2795	2820	2835
WNPPT212-2	12	3⁵⁄₁₆	12	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT212-2	12	3⁵⁄₁₆	12	2½	3¾	2-16d DPLX	2-10d	15650	3635	3675	3700	3720	2765	2795	2820	2835
WNPPT214-2	12	3⁵⁄₁₆	14	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT214-2	12	3⁵⁄₁₆	14	2½	3¾	2-16d DPLX	2-10d	15650	3635	3675	3700	3720	2765	2795	2820	2835
WNPPT216-2	12	3⁵⁄₁₆	16	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT216-2	12	3⁵⁄₁₆	16	2½	3¾	2-16d DPLX	2-10d	15650	3635	3675	3700	3720	2765	2795	2820	2835
WNPPT4	12	3⅝	3⁷⁄₁₆	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT4	12	3⅝	3⁷⁄₁₆	2	3¾	2-16d DPLX	2-10d	15650	4175	4175	4175	4175	3190	3220	3240	3260
WNPPT412	12	3⅝	12	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT412	12	3⅝	12	2	3¾	2-16d DPLX	2-10d	15650	4175	4175	4175	4175	3190	3220	3240	3260
WNPPT414	12	3⅝	14	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT414	12	3⅝	14	2	3¾	2-16d DPLX	2-10d	15650	4175	4175	4175	4175	3190	3220	3240	3260
WNPPT416	12	3⅝	16	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT416	12	3⅝	16	2	3¾	2-16d DPLX	2-10d	15650	4175	4175	4175	4175	3190	3220	3240	3260
WNPPT4-2	12	7¼	3⁷⁄₁₆	2½	2⅜	2-10d	2-10d	10560	3255	3255	3255	3255	2600	2600	2600	2600
WMPT4-2	12	7¼	3⁷⁄₁₆	2	3¾	2-16d DPLX	2-10d	15650	4175	4175	4175	4175	4175	4175	4175	4175

1. WMPT hangers are limited based on joist bearing capacity for the specific wood species, up to the maximum test value of 4175 lbs. All headers are grouted masonry block.



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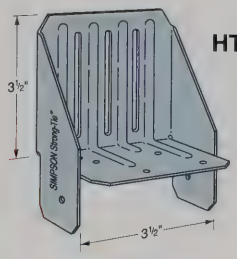
HTC HEAVY TRUSS CLIPS

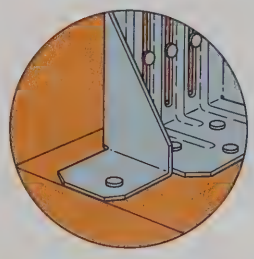
MATERIAL: 18 gauge
FINISH: Galvanized
INSTALLATION: • Use all specified fasteners; see General Notes.
- Has a 2 ½" slot to accommodate the movement of a commercial truss
- Available for steel truss applications S/HTC
- High lateral capacity

NEW

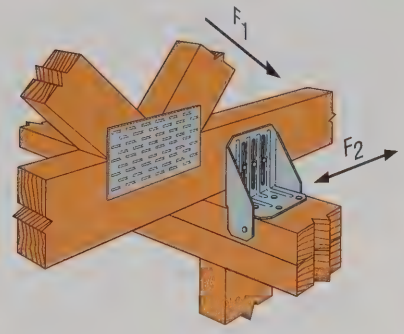
Model No.	Dimensions	Fasteners		Allowable Loads[1] (133 & 160)			
	Top Plate	Base	Slot	Without Gap[2]		With 1/4" Gap[3]	
				F_1	F_2	F_1	F_2
NEW HTC4	2x4 Plate	6-10d	3-10d	390	305	85	280
	2x6 Plate	6-10d	3-10d	485	280	155	280

1. Loads may not be increased for short-term loading.
2. Truss or rafter must be bearing on top plate to achieve the allowable loads under "WITHOUT GAP."
3. **Installed with maximum ¼" space between rafter or truss and top plate under "WITH ¼ GAP." Where loads are not required, space is not limited to ¼".**





Typical HTC4 Installation on a 2x6 Plate



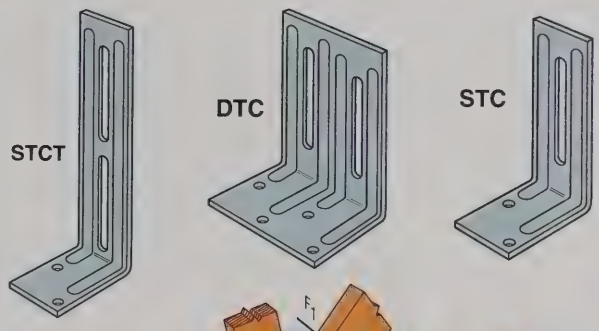
Typical HTC4 Installation on a 2x4 Plate

STC/STCT/DTC ROOF TRUSS CLIPS

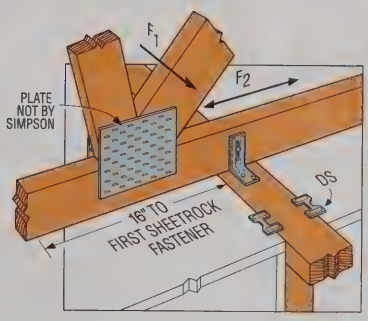
For alignment control between a roof truss and nonbearing walls; the 1½" slot permits vertical truss chord movement when loads are applied.
MATERIAL: 18 gauge. **FINISH**: Galvanized
INSTALLATION: • Use all specified fasteners; see General Notes.
- Use STC or DTC depending on required loads. STC, installed with Drywall Stop (DS), helps prevent fasteners tearing through the ceiling sheetrock (see illustration).
- Use STCT where truss or rafter is separated from the top plate of the nonbearing wall.
- Install slot nails in the middle of the slot.

Model No.	Dimensions		Fasteners		Allowable Loads[1] (133 & 160)			
	Plate Base	Vertical Leg	Base	Slot	Without Gap[2]		With 1/4" Gap[3]	
					F_1	F_2	F_1	F_2
STC	1¼x1⅞	1¼x2¾	2-8d	1-8d	85	50	35	35
STCT	1¼x1¾	1¼x4¼	2-8d	1-8d	—	—	—	—
DTC	2½x1⅞	2½x2¾	4-8d	2-8d	125	210	85	135

1. Loads may not be increased for short-term loading.
2. Truss or rafter must be bearing on top plate to achieve the allowable loads under "WITHOUT GAP."
3. **Installed with maximum ¼" space between rafter or truss and top plate under "WITH ¼ GAP." Where loads are not required, space is not limited to ¼".**



Allow 1/16 gap between nailhead and truss clip to help prevent squeaking



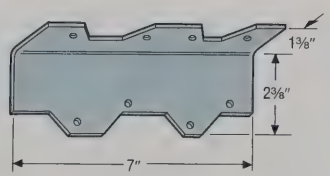
Typical STC Installation with DS

L70 REINFORCING ANGLE

L70 reinforcing angles may be used in pairs to transfer loads between floor truss plys.
MATERIAL: 16 gauge. **FINISH:** Galvanized.
INSTALLATION: • Use all fasteners. See General Notes.
- Use in pairs; see illustration.
- System designer must determine quantity and spacing of pairs based on load capacity requrements.
- Nail the shorter sides of the L70 into the sides of the loaded truss member, and nail the longer sides into the top of the clipped truss member.

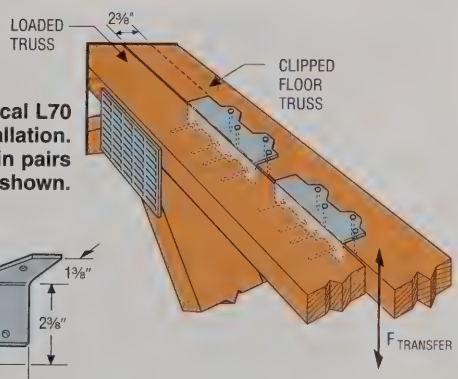
Model No.	Qty	L	Total Fasteners	Doug-Fir-Larch/ So. Pine Allowable Loads[1,3,4]	Spruce-Pine-Fir Allowable Loads[1,3,4]
				Floor (100)	Floor (100)
L70	2	7	16-10d	890	770

1. Allowable load transfer for each pair of L70 reinforcing angles.
2. L/D = Truss Span (inches) / Truss Depth (inches).
3. When L/D ≥ 12, the effective load transfer rate equals 40% of the applied load when the applied load is within the middle ⅔ of the span. The effective load transfer rate equals 25% of the applied load when the applied load is outside the middle ⅔ of the span. The load transferred shall not exceed the applicable table value.
4. When L/D < 12, the effective load transfer rate equals 20% of the applied load. The load transferred shall not exceed the applicable table value.



L70

Typical L70 Installation. Install in pairs as shown.



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L/LS/GA REINFORCING AND SKEWABLE ANGLES

The GA Gusset Angles' embossed bend section provides added strength. Staggered nail pattern reduces splitting and allows back-to-back installation.

L–Staggered nail pattern reduces the possibility for splitting and allows installation on both sides of a member. LS–Field-adjustable 0° to 135° angles attach members intersecting at angles.

MATERIAL: L–16 gauge; GA and LS–18 gauge

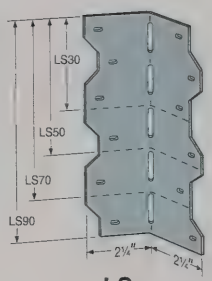
FINISH: Galvanized

INSTALLATION:
- Use all specified fasteners; see General Notes.
- LS–field skewable; bend one time only.
- Joist must be constrained against rotation (for example, with solid blocking) when using a single LS per connection.

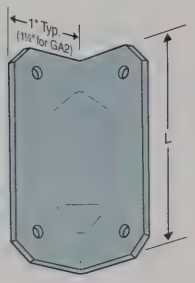
CODES: BOCA, ICBO, SBCCI NER-413, NER-443; ICBO 5357; City of L.A. RR 25119, RR 25149; Dade Co., FL 99-0713.05 (L70, LS50).

Model No.	L	Fasteners	Down Avg Ult	Doug-Fir-Larch/So. Pine Allowable Loads[1,2,3]			Spruce-Pine-Fir Allowable Loads		
				Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
GA1	2¾	4-10d	612	185	185	185	160	160	160
GA2	3¼	6-10d	1600	335	385	415	290	335	335
L30	3	4-10d	758	220	240	240	190	205	205
L50	5	6-10d	1983	335	385	420	290	335	360
L70	7	8-10d	1983	445	510	555	380	435	475
L90	9	10-10d	4667	555	640	695	480	550	600
LS30	3⅜	6-10d	1933	335	385	420	290	335	360
LS50	4⅞	8-10d	2180	450	520	560	390	450	485
LS70	6⅜	10-10d	4233	560	645	675	485	560	580
LS90	7⅞	12-10d	3233	670	770	840	580	670	730

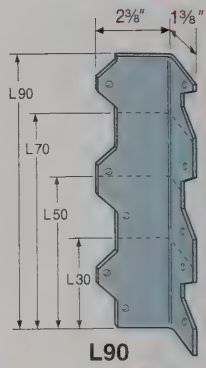
1. GA and L angles–loads are for condition F1 or F2; LS angles–loads are for condition F1 only.
2. GA1 and GA2 angles–loads for F2 are 220 and 335 lbs (100) and 280 and 415 lbs (125), respectively.
3. Roof loads are 125% of floor loads unless limited by other criteria; floor loads may be adjusted for other load durations according to the code, provided they do not exceed those in the roof column.
4. Loads are for one part only.
5. Use a minimum lumber thickness of 1¾". For 1½" lumber, use 0.81 of table load, except GA1 in F1 direction, use 185 lbs.
6. Nail the L angle's wider leg into the joist to ensure table loads and allow correct nailing, as shown in the illustration.



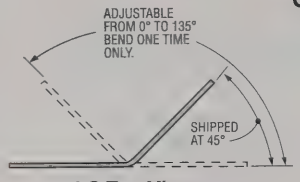
LS



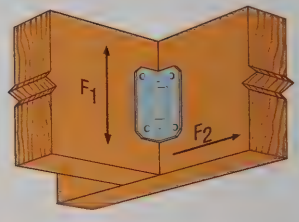
GA1



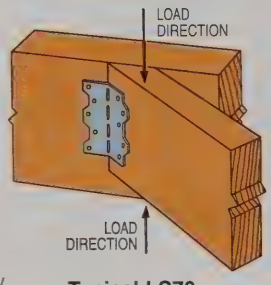
L90



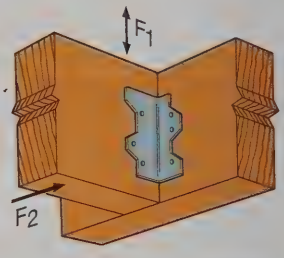
LS Top View



Typical GA Installation



Typical LS70 Installation



Typical L50 Installation

LTHMA MULTIPLE TRUSS HANGERS

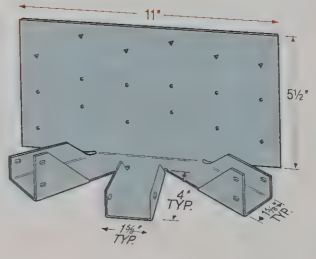
A single-piece connector designed to carry multiple truss members off girder trusses with 2x4 or 2x6 bottom chords.

MATERIAL: 16 gauge.

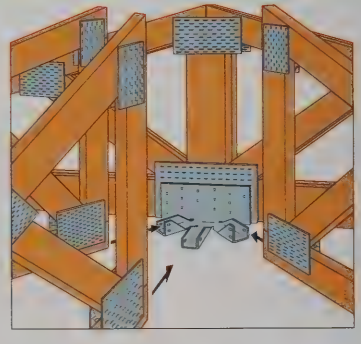
FINISH: Galvanized.

INSTALLATION:
- Use all specified fasteners. See General Notes.
- The total load must be symmetrically distributed about the centerline to avoid eccentric loading of the connector.
- Fill round holes for girder trusses with 2x4 bottom chords.
- Fill round and triangle holes for girder trusses with 2x6 bottom chords.

CODE: BOCA, ICBO, SBCCI NER-432.



LTHMA


Typical LTHMA Installation

Model No.	Header	Fasteners			Avg Ult	Doug-Fir-Larch/So. Pine Allowable Loads											
		Header	Hips (total)	Jack		Uplift (133 & 160)			Floor (100)			Snow (115)			Roof (125/133/160)		
						Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total
LTHMA	1 ply 2x4	12-10dx1½	6-10dx1½	2-10dx1½	9545	55	20	130	485	110	1080	540	125	1205	540	125	1205
	2 ply 2x4	12-10d	6-10dx1½	2-10dx1½	10063	55	20	130	600	130	1330	675	150	1500	675	150	1500
	1 ply 2x6	18-10dx1½	6-10dx1½	2-10dx1½	7960	55	20	130	635	140	1410	635	140	1410	635	140	1410
	2ply 2x6	18-10d	6-10dx1½	2-10dx1½	12342	85	25	195	900	200	2000	1035	230	2300	1050	240	2340

Model No.	Header	Fasteners			Avg Ult	Spruce-Pine-Fir Allowable Loads											
		Header	Hips (total)	Jack		Uplift (133 & 160)			Floor (100)			Snow (115)			Roof (125/133/160)		
						Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total
LTHMA	1 ply 2x4	12-10dx1½	6-10dx1½	2-10dx1½	—	50	10	110	440	55	935	485	65	1035	485	65	1035
	2 ply 2x4	12-10d	6-10dx1½	2-10dx1½	—	50	10	110	540	70	1150	570	75	1215	570	75	1215
	1 ply 2x6	18-10dx1½	6-10dx1½	2-10dx1½	—	50	10	110	570	75	1215	570	75	1215	570	75	1215
	2 ply 2x6	18-10d	6-10dx1½	2-10dx1½	13503	85	15	195	815	100	1730	930	125	1985	940	120	2000

1. Uplift loads include 33% and 60% increase with no further increase allowed.
2. Hip loads are for each hip.
3. Other hip/jack load distributions are allowed if the sum of all three carried members does not exceed the total load and the hip members are equally loaded.
4. Load distribution is 45% for each hip and 10% for jack.

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LTHJ TRUSS HIP/JACK HANGERS

Single piece, non-welded truss hip/jack connector.

MATERIAL: 18 gauge.

FINISH: Galvanized; also available in Z-MAX coating. See Corrosion Resistance, page 5.

INSTALLATION: • Use all specified fasteners. See General Notes.

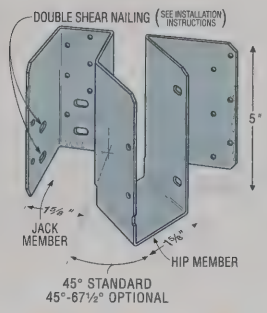
- All multiple members must be fastened together to act as a single unit.
- The two 10d common nails into the jack must be driven at an angle through the side plate slot and jack, and into the carrying member; see HUS for double shear nailing details. The end of the jack cannot be more than ⅛" from the back plate to meet required nail penetration.
- Should be attached to a double girder truss to allow for code-required minimum nail penetration.
- Distribute 75% of the total load to the hip member.
- With single 2x carrying members, use 10dx1½" nails and use 0.82 of the table value.

TO ORDER: Specify LTHJL for left 45° skewed hip truss and LTHJR for right 45° skewed hip truss.

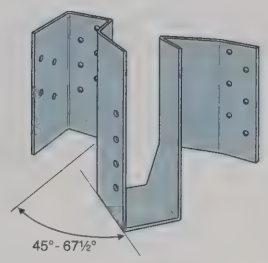
OPTIONS: SLOPE AND/OR SKEW

- Available in hip slopes up to 45° and/or skews left or right from 45° to 67°.
- For optional configurations, loads are 100% of table loads.
- To order, specify degree of slope and/or skew left or right. **Example:** To order an LTHJ sloped down 45° and skewed right 55°, order an LTHJXD45 R55.

CODE: BOCA, ICBO, SBCCI NER-432; Dade County No. 99-0623.04

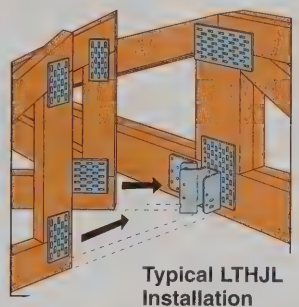


LTHJR Hip Skewed 45 Right (LTHJL similar)

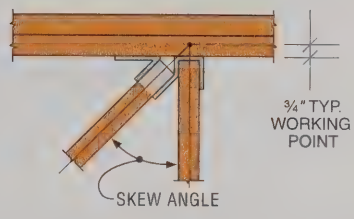


LTHJX Skewed Right

U.S. Patents 4,480,941 and 5,042,217 Canada Patent 1,193,418



Typical LTHJL Installation



LTHJL Plan View (LTHJR similar)

Model No.	Fasteners			Avg Ult	Carried Member	Doug Fir-Larch/Southern Pine Allowable Loads						Spruce-Pine-Fir Allowable Loads					
	Carrying Member	Hip	Jack			Uplift[1] (133)	Uplift[1] (160)	Floor (100)	Snow (115)	Const (125)	Wind (133)	Uplift[1] (133)	Uplift[1] (160)	Floor (100)	Snow (115)	Const (125)	Wind (133)
LTHJR/L	12-10d	4-10dx1½	2-10dx1½ and 2-10d	5950	Hip	485	580	1135	1310	1420	1425	415	500	980	1130	1225	1225
					Jack	250	250	380	435	475	475	215	215	330	380	410	410
					Total	735	830	1515	1745	1895	1900	630	715	1310	1510	1635	1635

1. Uplift loads include a 33% and 60% increase for earthquake or wind loading with no further increase allowed.
2. Allowable loads for 10d commons also apply when 16d sinkers are used.
3. Combine hip and jack loads for total capacity.

THJA26 TRUSS HIP/JACK GIRDERS

The versatile THJA26 can accommodate right or left hand hips, and can be installed before or after the hip and jack. Provides side flange support for the component with the heaviest load and can be used for some terminal hip conditions.

MATERIAL: 14 gauge

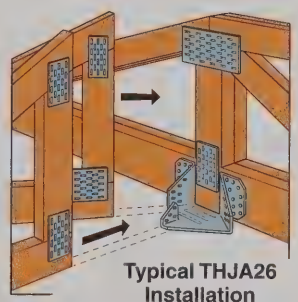
FINISH: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.

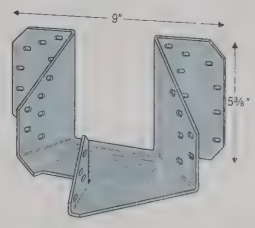
- All multiple members must be fastened together to act as a single unit.
- Should be attached to a double girder truss to allow for code-required minimum nail penetration.
- With single 2x carrying members, use 10dx1½" nails and use 0.67 of the table value.
- Distribute 75% of the total load to the hip member.

OPTIONS: These hangers cannot be modified.

CODE: BOCA, ICBO, SBCCI NER-469.

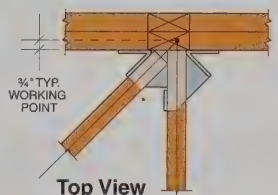


Typical THJA26 Installation

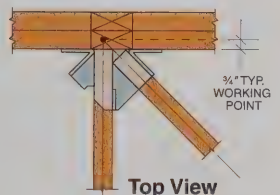


THJA26

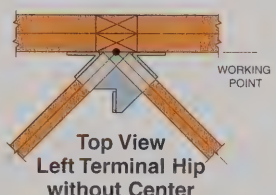
U.S. Patent 5,253,465



Top View Left Hand Hip Installation



Top View Right Hand Hip Installation



Top View Left Terminal Hip without Center Common Jack

Model No.	Fasteners[1]			Avg Ult	Carried Member	Doug-Fir-Larch/So. Pine Allowable Loads					Spruce-Pine-Fir Allowable Loads				
	Carrying Member	Hip	Jack			Uplift (133) & (160)	Floor (100)	Snow (115)	Roof (125)	Wind (133)	Uplift (133) & (160)	Floor (100)	Snow (115)	Roof (125)	Wind (133)
THJA26	20-16d	6-10dx1½	4-10dx1½	9900	Hip	720	2010	2310	2450	2450	590	1740	2000	2100	2100
					Jack	240	670	770	815	815	195	580	670	700	700
					Total	960	2680	3080	3265	3265	785	2320	2670	2800	2800

1. 16d sinkers (9 ga x 3¼") may be substituted for the specified 16d commons at 0.84 of the table load.
2. Combine hip and jack loads for total capacity (for terminal hip, add hip and jack loads then divide by two for each member).
3. For a 2-2x4 bottom chord, multiply the down load by 0.50.
4. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.

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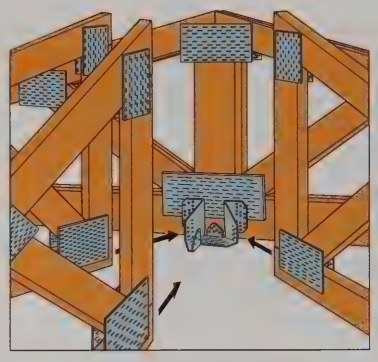
MTHM/MTHM-2 MULTIPLE TRUSS HANGERS

SIMPSON Strong-Tie CONNECTORS

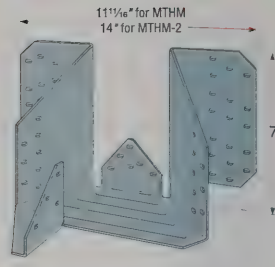
Medium to high load capacity single-piece connectors designed to carry multiple truss members. Can be used for both terminal and right or left hand hip applications.

MATERIAL: 12 gauge. **FINISH:** Galvanized

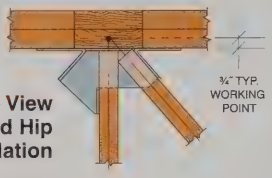
INSTALLATION:
- Use all specified fasteners. See General Notes.
- All multiple members must be fastened together to act as a single unit.
- Should be attached to a double girder truss to allow for code-required minimum nail penetration.
- With single 2x carrying members, use 10dx1½" nails with 0.67 of the table values.
- For terminal installation, distribute 40% of total load to each hip member and 20% to the jack.
- For left or right hand hip installation, distribute 75% of total load to the hip member and 25% to the jack.



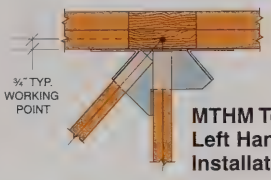
Typical MTHM Installation



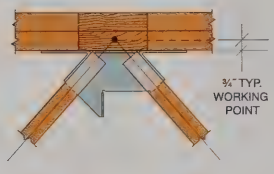
MTHM
(MTHM-2 similar)
U.S. Patent
5,253,465



MTHM Top View Right Hand Hip Installation



MTHM Top View Left Hand Hip Installation

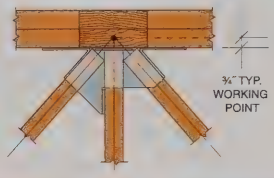


MTHM Top View Terminal Installation Without Center Common Jack

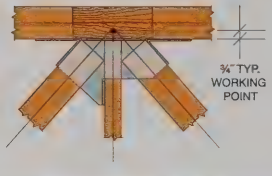
Right or Left Hand Hip Installation (Two Member Connection)

Model No.	Header	Fasteners			Avg Ult	Doug-Fir-Larch/So. Pine Allowable Loads											
		Carrying Member	Hip	Jack		Uplift (133 & 160)			Floor (100)			Snow (115)			Roof (125/133/160)		
						Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total
MTHM	2 ply 2x4	22-16d	8-10dx1½	4-10dx1½	10047	805	270	1075	2185	730	2915	2185	730	2915	2185	730	2915
	2 ply 2x6	34-16d	8-10dx1½	4-10dx1½	—	805	270	1075	2630	875	3505	2630	875	3505	2630	875	3505
	2 ply 2x8	42-16d	8-10dx1½	4-10dx1½	13803	805	270	1075	3250	1085	4335	3250	1085	4335	3250	1085	4335
MTHM-2	2 ply 2x6	39-16d	8-10dx1½	4-10dx1½	—	835	280	1115	2800	935	3735	2800	935	3735	2800	935	3735
	2 ply 2x8	47-16d	8-10dx1½	4-10dx1½	13980	835	280	1115	3375	1125	4500	3375	1125	4500	3375	1125	4500

Model No.	Header	Fasteners			Avg Ult	Spruce-Pine-Fir Allowable Loads											
		Carrying Member	Hip	Jack		Uplift (133 & 160)			Floor (100)			Snow (115)			Roof (125/133/160)		
						Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total
MTHM	2 ply 2x4	22-16d	8-10dx1½	4-10dx1½	—	655	220	875	1880	625	2505	1880	625	2505	1880	625	2505
	2 ply 2x6	34-16d	8-10dx1½	4-10dx1½	—	655	220	875	2260	755	3015	2260	755	3015	2260	755	3015
	2 ply 2x8	42-16d	8-10dx1½	4-10dx1½	—	655	220	875	2795	930	3725	2795	930	3725	2795	930	3725
MTHM-2	2 ply 2x6	39-16d	8-10dx1½	4-10dx1½	—	680	225	905	2510	835	3345	2510	835	3345	2510	835	3345
	2 ply 2x8	47-16d	8-10dx1½	4-10dx1½	—	680	225	905	2905	970	3875	2905	970	3875	2905	970	3875



MTHM Top View Installation



MTHM-2 Top View Installation

Terminal Type Installation (Three Member Connection)

Model No.	Header	Fasteners			Avg Ult	Doug-Fir-Larch/So. Pine Allowable Loads											
		Carrying Member	Hips (total)	Jack		Uplift (133 & 160)			Floor (100)			Snow (115)			Roof (125/133/160)		
						Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total
MTHM	2 ply 2x4	22-16d	16-10dx1½	4-10dx1½	16940	715	360	1790	1215	605	3035	1395	700	3490	1520	760	3800
	2 ply 2x6	34-16d	16-10dx1½	4-10dx1½	—	715	360	1790	1860	930	4650	1860	930	4650	1860	930	4650
	2 ply 2x8	42-16d	16-10dx1½	4-10dx1½	16550	715	360	1790	2010	1005	5025	2010	1005	5025	2010	1005	5025
MTHM-2	2 ply 2x6	39-16d	16-10dx1½	4-10dx1½	—	745	370	1860	1955	980	4890	1955	980	4890	1955	980	4890
	2 ply 2x8	47-16d	16-10dx1½	4-10dx1½	18713	745	370	1860	2470	1235	6175	2470	1235	6175	2470	1235	6175

Model No.	Header	Fasteners			Avg Ult	Spruce-Pine-Fir Allowable Loads											
		Carrying Member	Hips (total)	Jack		Uplift (133 & 160)			Floor (100)			Snow (115)			Roof (125/133/160)		
						Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total	Hip	Jack	Total
MTHM	2 ply 2x4	22-16d	16-10dx1½	4-10dx1½	—	580	290	1450	1055	530	2640	1215	605	3035	1320	660	3300
	2 ply 2x6	34-16d	16-10dx1½	4-10dx1½	—	580	290	1450	1600	800	4000	1600	800	4000	1600	800	4000
	2 ply 2x8	42-16d	16-10dx1½	4-10dx1½	—	580	290	1450	1730	865	4325	1730	865	4325	1730	865	4325
MTHM-2	2 ply 2x6	39-16d	16-10dx1½	4-10dx1½	—	600	300	1500	1680	840	4200	1680	840	4200	1680	840	4200
	2 ply 2x8	47-16d	16-10dx1½	4-10dx1½	—	600	300	1500	2125	1060	5310	2125	1060	5310	2125	1060	5310

1. Uplift loads include 33% and 60% increase with no further increase allowed.
2. Hip loads are for each hip.
3. Other hip/jack load distributions are allowed if the sum of all three carried members does not exceed the total load and the hip members are equally loaded.
4. Combine hip and jack loads for total capacity. For terminal hips divide the total allowable load by 2 to determine the allowable load for each hip.

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MSCPT MULTIPLE TRUSS HANGERS

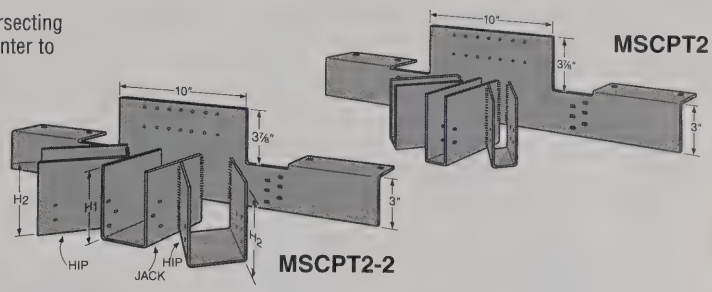
The MSCPT is a welded hanger designed to carry up to three trusses intersecting at one point into a double ply girder truss. The top flange is notched at the center to accommodate vertical and diagonal web members in the girder truss.

MATERIAL: Top flange–3 gauge; stirrup–11 gauge (MSCPT2, MSCPT2N), 7 gauge (MSCPT2-2, MSCPT2-2N).

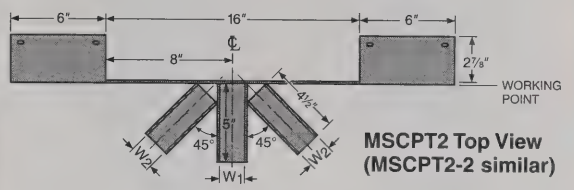
FINISH: Simpson gray paint.

INSTALLATION: • Use all specified fasteners. See General Notes.
- The total load must be evenly distributed about the centerline to avoid eccentric loading.
- All multiple members must be fastened together to act as a single unit.
- Minimum vertical carrying member sizes are 2x6 for MSCPT2 and MSCPT2N, and 2x8 for MSCPT2-2 and MSCPT2-2N.
- Minimum carrying member bottom chord is 2x6.

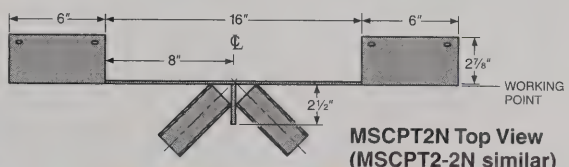
OPTIONS: • H_1 and H_2 may be increased for alignment with larger bottom chords.
- Hip stirrups can be skewed to 45°.
- The W_1 and W_2 of the MSCPT2 may be increased up to 3 7/16", provided the stirrups' configuration remains symmetrical.



Model No.	Dimensions			Fasteners		Doug-Fir-Larch/So. Pine Allowable Loads[1,2]					
	W_1 & W_2	H_1 & H_2	TF	Header	Joists	Uplift (133/160)			Floor/Snow/Roof (100/115/125)		
						Hip	Jack	Total	Hip	Jack	Total
MSCPT2	1⅝	5¼	2⅞	26-16d	18-10dx1½	750	370	1870	3145	1570	7860
MSCPT2N	1⅝	5¼	2⅞	26-16d	14-10dx1½	750	—	1500	3930	—	7860
MSCPT2-2	3 5/16	5¼	2⅞	30-16d	20-10d	750	370	1870	3470	1735	8675
MSCPT2-2N	3 5/16	5¼	2⅞	30-16d	14-10d	750	—	1500	4335	—	8675



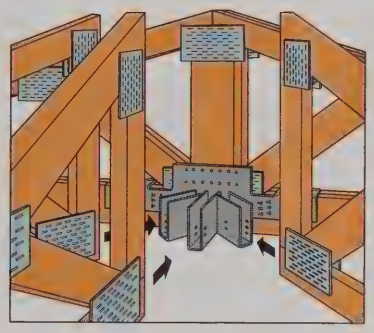
MSCPT2 Top View (MSCPT2-2 similar)



MSCPT2N Top View (MSCPT2-2N similar)

Model No.	Dimensions			Fasteners		Spruce-Pine-Fir Allowable Loads[1,2]					
	W_1 & W_2	H_1 & H_2	TF	Header	Joists	Uplift (133/160)			Floor/Snow/Roof (100/115/125)		
						Hip	Jack	Total	Hip	Jack	Total
MSCPT2	1⅝	5¼	2⅞	26-16d	18-10dx1½	645	320	1610	3000	1500	7500
MSCPT2N	1⅝	5¼	2⅞	26-16d	14-10dx1½	645	—	1290	3470	—	6940
MSCPT2-2	3 5/16	5¼	2⅞	30-16d	20-10d	645	320	1610	3000	1500	7500
MSCPT2-2N	3 5/16	5¼	2⅞	30-16d	14-10d	645	—	1290	3750	—	7500

1. For MSCPT2 and MSCPT2-2 models, allowable hip loads are 0.40 x Total Loads, and Jack Loads are 0.20 x Total Loads.
2. Uplift loads include a 33% and 60% increase for earthquake or wind loading, with no further increase allowed.


Typical MSCPT2 Installation

THGAR/L 45° SKEWED TRUSS GIRDER HANGER

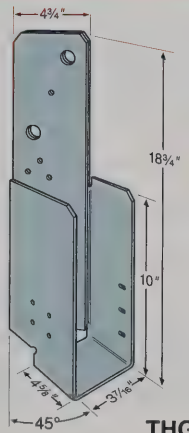
MATERIAL: 10 gauge **FINISH:** Galvanized.

INSTALLATION: • Use all specified fasteners. See General Notes.
- Fasten all multiple members together to act as a single unit.
- The minimum vertical carrying member size is 2x6.
- Use a maximum 2x8 bottom chord in the carrying member to allow for the minimum bolt end distance. Take 0.62 of the table load for a 2x10 bottom chord.
- Attach the THG2AR/L to the center of the vertical carrying member. Face nails are required.
- The carried member may be square cut.

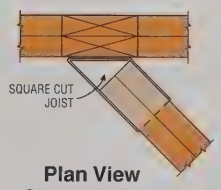
OPTIONS: These hangers cannot be modified.

TO ORDER: Specify THG2AL for left skewed hip truss, THG2AR for right skewed hip truss.

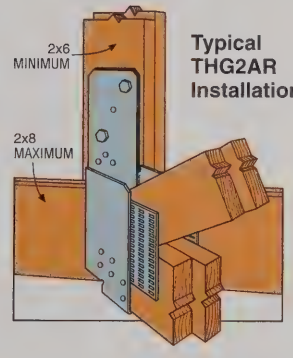
CODE: BOCA, ICBO, SBCCI NER-432.



THG2AR



Plan View Skewed Right



Typical THG2AR Installation

Model No.	Fasteners			Avg Ult	Length of Bolt In Carrying Member	Doug Fir-Larch/Southern Pine Allowable Loads						Spruce-Pine-Fir Allowable Loads					
	Carrying Member		Carried Member			Uplift[1] (133)	Uplift[1] (160)	Floor (100)	Snow (115)	Const (125)	Wind (133)	Uplift[1] (133)	Uplift[1] (160)	Floor (100)	Snow (115)	Const (125)	Wind (133)
	Bolts	Nails															
THG2AR/L	2-¾ MB	4-10d	9-10d	25833	1½	1525	1830	1385	1590	1730	1845	1330	1600	1170	1345	1465	1560
					3			2785	3200	3480	3710			2345	2695	2930	3125
					4½			3030	3485	3790	4040			2800	3225	3505	3735
					6			3030	3485	3790	4040			2800	3225	3505	3735

1. Uplift loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.

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THGB/THGBH/THGW TRUSS GIRDER HANGERS

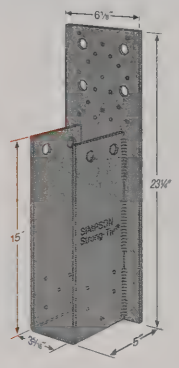
SIMPSON Strong-Tie CONNECTORS

Two models offer higher design load values and optional installation with the SDS Strong-Drive screw.

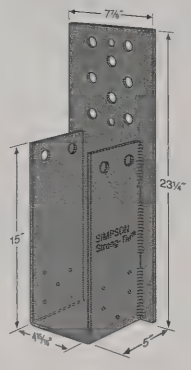
MATERIAL: 3 gauge. **FINISH:** Simpson gray paint.

INSTALLATION: • Use all specified fasteners. See General Notes.

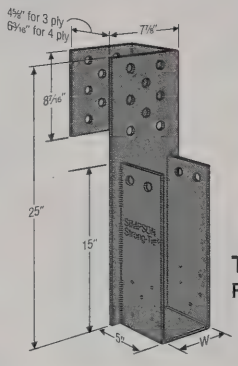
- All multiple members must be fastened together to act as a single unit.
- Maximum 11⅞" bottom chord in the carrying member to allow for the minimum bolt end distance.
- See page 8 for SDS screws.
- For optional installations see page 119.



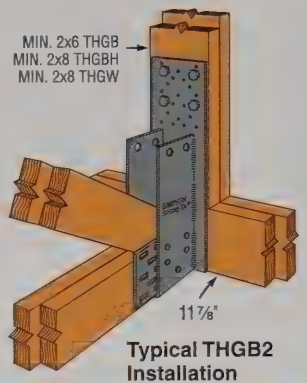
THGB2
(THGB3 similar)



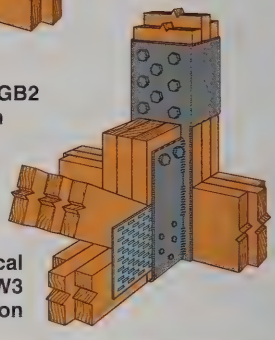
THGBH3
(THGBH4 similar)



THGW3
Patent Pending



Typical THGB2 Installation



Typical THGW3 Installation

Model No.	Width (W)	Fasteners: Carried Member	Fasteners: Carrying Member	Length of Fastener in Carrying Member	Doug-Fir/So. Pine Allowable Loads: Uplift[1] (133/160)	Floor (100)	Snow (115)	Const (125)	Wind (133)	Spruce-Pine-Fir Allowable Loads: Uplift[1] (133/160)	Floor (100)	Snow (115)	Const (125)	Wind (133)
THGB2	3⅝	10-10d & 2-¾"MB	4-¾ MB	1½	8010	3040	3495	3800	4055	6650	2635	3030	3295	3515
				3		5665	6505	7070	7540		4800	5520	6000	6400
				4½		6235	7170	7795	8315		5775	6640	7220	7235
				6		6235	7170	7795	8315		5775	6640	7220	7235
THGB2	3⅝	10-10d & 2-¾"MB	19-SDS¼X3[2]	1½	8010	—	—	—	—	6650	—	—	—	—
				3		6385	7340	7980	8510		5550	6380	6935	7200
				4½		6385	7340	7980	8510		5550	6380	6935	7200
				6		6385	7340	7980	8510		5550	6380	6935	7200
THGBH2	3⅝	10-10d & 2-¾"MB	8-¾ MB	1½	8010	—	—	—	—	6650	—	—	—	—
				3		10010	10010	10010	10010		7745	7950	8090	8200
				4½		10010	10010	10010	10010		7745	7950	8090	8200
				6		10010	10010	10010	10010		7745	7950	8090	8200
THGB3	4⅝	10-10d & 2-¾"MB	4-¾ MB	1½	8010	3040	3495	3800	4055	6650	2635	3030	3295	3515
				3		5655	6505	7070	7540		4800	5520	6000	6400
				4½		6235	7170	7795	8315		5775	6640	7220	7235
				6		6230	7165	7795	8315		5775	6640	7220	7235
THGB3	4⅝	10-10d & 2-¾"MB	19-SDS¼X3[2]	1½	8010	—	—	—	—	6650	—	—	—	—
				3		6385	7340	7980	8510		5550	6380	6935	7200
				4½		6385	7340	7980	8510		5550	6380	6935	7200
				6		6385	7340	7980	8510		5550	6380	6935	7200
THGBH3	4⅝	10-10d & 2-¾"MB	8-¾ MB	1½	8010	—	—	—	—	6650	—	—	—	—
				3		10010	10010	10010	10010		8310	8310	8310	8310
				4½		12000	12000	12000	12000		9960	9960	9960	9960
				6		12335	12335	12335	12335		10240	10240	10240	10240
THGBH4	6⅝	10-10d & 2-¾"MB	4-¾ MB[3]	1½	8010	—	—	—	—	6650	—	—	—	—
				3		5655	6505	7070	7540		4800	5520	6000	6400
				4½		6235	7170	7795	8315		5775	6640	7220	7235
				6		6235	7170	7795	8315		5775	6640	7220	7235
THGBH4	6⅝	10-10d & 2-¾"MB	6-¾ MB[3]	1½	8010	—	—	—	—	6650	—	—	—	—
				3		8410	9565	9565	9565		7135	7940	7940	7940
				4½		9310	9565	9565	9565		7940	7940	7940	7940
				6		9280	9565	9565	9565		7940	7940	7940	7940
THGBH4	6⅝	10-10d & 2-¾"MB	8-¾ MB	1½	8010	—	—	—	—	6650	—	—	—	—
				3		10010	10010	10010	10010		8310	8310	8310	8310
				4½		12425	14050	14050	14050		11510	11660	11660	11660
				6		12425	14050	14050	14050		11510	11660	11660	11660
THGW3[4]	4⅝	10-10d & 2-¾"MB	8-¾ MB	4½	8010	21830	21830	21830	21830	6650	18120	18120	18120	18120
				6		21830	21830	21830	21830		18120	18120	18120	18120
THGW4[4]	6⅝	10-10d & 2-¾"MB	8-¾ MB	4½	8010	24165	24165	24165	24165	6650	20055	20055	20055	20055
				6		24165	24165	24165	24165		20055	20055	20055	20055

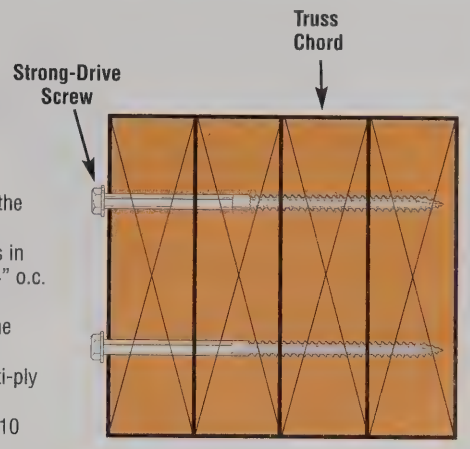
1. Uplift loads include a 133% and 160% increase, no further increase allowed. A 2 ply minimum truss is required. When using 10-10d nails only for carried member, uplift is 1960 lbs for Doug-Fir/So. Pine and 1625 lbs for Spruce-Pine-Fir.
2. SDS¼X3 must have a minimum 2 ply member.
3. Bolts must be installed symmetrically when using less than 8 bolts on the 8-bolt backplate.
4. Loads for THGW models are based on end grain bearing.
5. When ordering, specify number of plys for carried truss first then number of plys for carrying truss. Example: THGW3-4 is a 3 ply carried truss to a 4 ply carrying truss.

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GIRDER TRUSSES

For more information, request T-SDSCREWAPPS.

1. Install Strong-Drive screws a minimum of 1 inch into the last truss ply, with a maximum gap of ⅛" allowed between each truss ply.
2. Screw spacing shall not exceed 24" o.c.
3. Hanger load spacing on the multi-ply truss shall not exceed 24" o.c.
4. The Truss Engineer shall ensure that adequate lateral bracing is provided to prevent displacement of the truss and the truss bottom chord due to the torsion created by the structural members framing into the side of the multi-ply girder truss.
5. If Strong-Drive Screws are installed in the wrong truss face, install additional screws in the correct face with maximum spacing of 2x the required spacing, not to exceed 24" o.c. Offset the additional screws from the existing screws to prevent splitting.
6. Do not install Strong-Drive Screws through metal truss plates unless approved by the truss engineer–pre-drilling is required.
8. The Truss Engineer shall ensure that the use of Strong-Drive Screws for joining multi-ply trusses is allowed by the Building Official before the truss design is completed.
9. Use 1 row of SDS's in 2x4 members, 2 rows in 2x6 and 2x8 members, 3 rows in 2x10 members. Rows should be staggered.
10. Individual screw locations may be adjusted up to 1/2 of the required screw spacing to avoid conflicts with other hardware or to avoid lumber defects.



Screw position in the truss



Simpson Strong-Drive Screw

U.S. Patent 6,109,850

Model No.	Allowable Shear Loads								
	Doug-Fir Larch (G = 0.50)			Southern Pine (G = 0.55)			Spruce-Pine-Fir (G = 0.42)		
	Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)	Floor (100)	Snow (115)	Roof (125)
SDS¼ x 4½	272	313	340	311	358	389	216	248	270
SDS¼ x 6	272	313	340	311	358	389	216	248	270

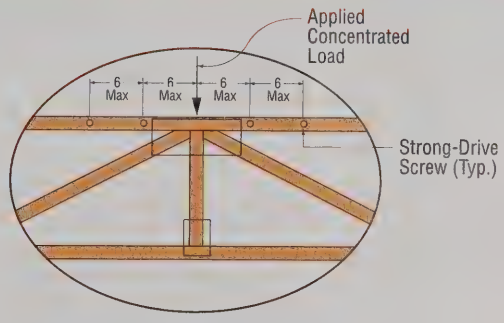
1. Allowable loads are based on 1997 NDS. No adjustments were made except for load duration.
2. The Truss Engineer shall apply all adjustment factors required per 1997 NDS.
3. Loads are based on 1½" thick wood side members and apply to 3 and 4 ply 2x wood truss applications. (Side and main members of same wood species.) Contact Simpson for other applications.

TWO-PLY 4X2 FLOOR TRUSSES

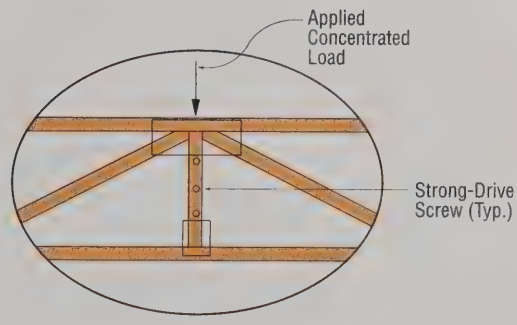
For more information, request T-SDSCREWAPPS.

The use of Strong-Drive screws insures that loads are adequately supported by both trusses. *(Testing has shown that most currently available light gauge steel connectors do not uniformly distribute applied loads to both trusses.)* In addition differential deflection between the two trusses is reduced.

1. Screw spacing shall not exceed 24" o.c. and shall not be less than 4" o.c. A minimum end distance of 3" shall be provided at all truss members.
2. Gap between the trusses shall not exceed 1/8".
3. Floor sheathing shall be screwed (or nailed) to each truss top chord. *(Fastener spacing per the applicable Code requirements, or 12" o.c. max.)*
4. Strong-Drive screws shall be installed with the screw heads in the loaded truss. If the screws are installed in the wrong truss face, install additional screws in the correct face with a maximum spacing of 2x the required spacing, not to exceed 24" o.c. Offset the additional screws from the existing screws to prevent splitting.
5. Do not install Strong-Drive screws through metal truss plates unless approved by the Truss Engineer–pre-drilling is required.
6. The Truss Engineer shall ensure that each truss is designed for the appropriate load(s) considering the location of the applied load(s) and the location of the Strong-Drive screws.
7. The Truss Engineer shall design all trusses and the truss system to meet all Code and ANSI-TPI requirements.
8. Individual screw locations may be adjusted up to 3" to avoid conflicts with other hardware or to avoid lumber defects.
9. Strong-Drive screws shall not be installed in areas where lumber wane exceeds ¼".
10. All concentrated loads were assumed to be applied at truss panel points.



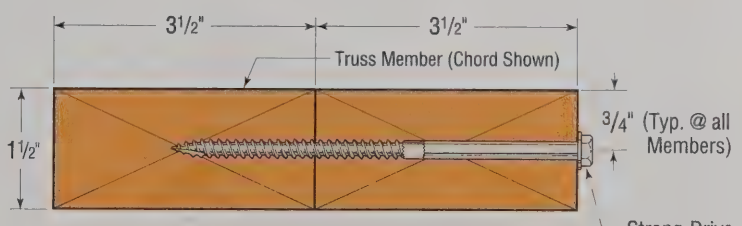
Installation Method 1 - Top Chord



Installation Method 2 - Vertical Web

Model No.	Allowable Shear Loads	
	DFL & SP (G = 0.50 min)	SPF (G = 0.42)
	Floor (100)	Floor (100)
SDS¼x6	250	215

1. Allowable loads are based on 1997 NDS. No adjustments were made.
2. The Truss Engineer shall apply all adjustment factors required per 1997 NDS.
3. Method 1 - To be considered effective all Strong-Drive screws shall be installed within 12" of the applied concentrated load.
4. Method 1 and Method 2 screws can be combined as required to transfer half of the applied load to the supporting truss.
5. For uniform top chord loads, space Strong-Drive screws as required to transfer half of the applied load to the supporting truss.
6. Web configurations other than those shown above may be used as allowed by the Truss Engineer.



Screw position in the truss

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TBE TRUSS BEARING ENHANCERS

SIMPSON Strong-Tie CONNECTORS

One size works with any number of girder plys. The TBE transfers load from the truss or girder to plates for bearing-limited conditions, and provides exceptional uplift capacity. Replaces nail-on scabs that provide lower load transfer, or in some cases, an additional ply when needed for bearing.

The table lists allowable loads for TBE4 used on 2x4 and TBE6 used on 2x6 top plates. The table gives the different loads calculated for TBE with and without wood bearing. See page 113 for Fastener Schedule and Alternate Installation.

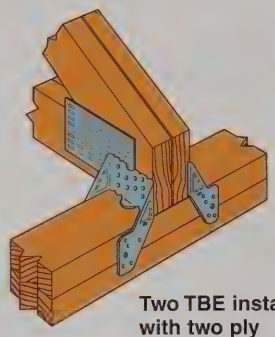
MATERIAL: 18 gauge.

FINISH: Galvanized.

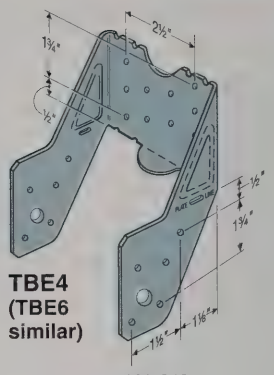
INSTALLATION: • Use all specified fasteners. See General Notes.

- **TBE must be installed in pairs.**
- Top plate size is 2x4 for TBE4, 2x6 for TBE6. Use alternate installation for TBE4 and TBE6 on larger plates or pre-sheathed walls.

CODE: ICBO 5357 (uplift and lateral).



Two TBE installed with two ply girder truss



TBE4 (TBE6 similar)

U.S. Patent 5,109,646
Canada Patent 2,044,440

No. of Truss Plys	Top Plate or Truss Wood Species[7]	TBE Only Allowable Loads[1,4]							TBE & Wood Bearing Allowable Loads & Total Bearing Length (TBL)[1,4,8]							
		(100)	(115)	(125)	(133)	Uplift[3] (133 & 160)	Lateral (133) Parallel to Plate[6]	Lateral (133) Perp to Plate[5]	(100)	TBL (in)	(115)	TBL (in)	(125)	TBL (in)	(133/160)	TBL (in)
TBE4 ON 2x4 TOP PLATE																
1	Doug-Fir-larch	1820	2095	2230	2230	850	400	1000	5100	5.44	5375	5.73	5510	5.88	5510	5.88
	Southern Pine	1820	2095	2230	2230	850	400	1000	4785	5.65	5060	5.97	5195	6.13	5195	6.13
	Spruce-Pine-Fir	1560	1795	1950	2080	850	375	1000	3790	5.95	4025	6.32	4180	6.56	4310	6.76
	Hem Fir	1560	1795	1950	2080	850	375	1000	3885	6.07	3920	6.45	4075	6.71	4205	6.92
2	Doug-Fir-Larch	2220	2230	2230	2230	850	400	1000	8785	4.68	8795	4.69	8795	4.69	8795	4.69
	Southern Pine	2220	2230	2230	2230	850	400	1000	8155	4.81	8165	4.82	8165	4.82	8165	4.82
	Spruce-Pine-Fir	1920	2100	2100	2100	850	375	1000	6385	5.01	6565	5.15	6565	5.15	6565	5.15
	Hem Fir	1920	2100	2100	2100	850	375	1000	6175	5.08	6355	5.23	6355	5.23	6355	5.23
3	Doug-Fir-Larch	2220	2230	2230	2230	850	400	1000	12065	4.29	12075	4.29	12075	4.29	12075	4.29
	Southern Pine	2220	2230	2230	2230	850	400	1000	11120	4.37	11130	4.38	11130	4.38	11130	4.38
	Spruce-Pine-Fir	1920	2100	2100	2100	850	375	1000	8615	4.50	8795	4.60	8795	4.60	8795	4.60
	Hem Fir	1920	2100	2100	2100	850	375	1000	8300	4.55	8480	4.65	8480	4.65	8480	4.65
4	Doug-Fir-Larch	2220	2230	2230	2230	850	400	1000	15345	4.09	15355	4.09	15355	4.09	15355	4.09
	Southern Pine	2220	2230	2230	2230	850	400	1000	14085	4.15	14095	4.16	14095	4.16	14095	4.16
	Spruce-Pine-Fir	1920	2100	2100	2100	850	375	1000	10845	4.25	11025	4.32	11025	4.32	11025	4.32
	Hem Fir	1920	2100	2100	2100	850	375	1000	10425	4.29	10605	4.36	10605	4.36	10605	4.36
TBE6 ON 2x6 TOP PLATE																
1	Doug-Fir-Larch	1820	2095	2275	2425	935	300	1000	6975	7.44	7250	7.73	7430	7.93	7580	8.09
	Southern Pine	1820	2095	2275	2425	935	300	1000	6480	7.65	6755	7.97	6935	8.18	7085	8.36
	Spruce-Pine-Fir	1560	1795	1950	2080	935	300	965	5065	7.95	5300	8.32	5455	8.55	5585	8.76
	Hem Fir	1560	1795	1950	2080	935	300	965	4900	8.07	5135	8.45	5290	8.70	5420	8.92
2	Doug-Fir-Larch	2220	2555	2735	2735	935	300	1000	12535	6.68	12870	6.86	13050	6.96	13050	6.96
	Southern Pine	2220	2555	2735	2735	935	300	1000	11545	6.81	11880	7.01	12060	7.11	12060	7.11
	Spruce-Pine-Fir	1920	2210	2400	2560	935	300	965	8935	7.01	9225	7.23	9415	7.38	9575	7.51
	Hem Fir	1920	2210	2400	2560	935	300	965	8605	7.08	8895	7.32	9085	7.48	9245	7.61
3	Doug-Fir-Larch	2220	2555	2735	2735	935	300	1000	17690	6.29	18025	6.41	18205	6.47	18205	6.47
	Southern Pine	2220	2555	2735	2735	935	300	1000	16205	6.37	16540	6.50	16720	6.58	16720	6.58
	Spruce-Pine-Fir	1920	2210	2400	2560	935	300	965	12440	6.50	12730	6.66	12920	6.75	13080	6.84
	Hem Fir	1920	2210	2400	2560	935	300	965	11945	6.55	12235	6.71	12425	6.82	12585	6.90
4	Doug-Fir-Larch	2220	2555	2735	2735	935	300	1000	22845	6.09	23180	6.18	23360	6.23	23360	6.23
	Southern Pine	2220	2555	2735	2735	935	300	1000	20865	6.15	21200	6.25	21380	6.31	21380	6.31
	Spruce-Pine-Fir	1920	2210	2400	2560	935	300	965	15945	6.25	16235	6.37	16425	6.44	16585	6.50
	Hem Fir	1920	2210	2400	2560	935	300	965	15285	6.29	15575	6.41	15765	6.49	15925	6.55

1. Loads are for two TBEs only. Allowable wood bearing load may be added as shown in the table.
2. Allowable loads for four wood species at Fc⊥ for Douglas Fir-Larch = 625, Southern Pine = 565; Spruce-Pine-Fir = 425; Hem Fir = 405.
3. Uplift loads have been increased by 33% and 60% with no further increase allowed; reduce by 33% or 60% for normal loading criteria such as in cantilever construction.
4. Allowable loads are determined only by nail shear calculations or tests of the metal connectors based on the lowest of 0.125" of deflection or the ultimate load with a 3 time factor of safety. The attached wood members must be designed to withstand the loads imposed by the nails.
5. Perpendicular to Plate loads are reduced for Alternate Installation.
6. Parallel to Plate loads are not reduced for Alternate Installation.
7. Use lower of top plate or truss wood species.
8. Total bearing length, TBL, equals the plate width plus simulated bearing length provided by the TBE. TBE4 = 3½" plate width; TBE6 = 5½".

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TBE FASTENER SCHEDULE

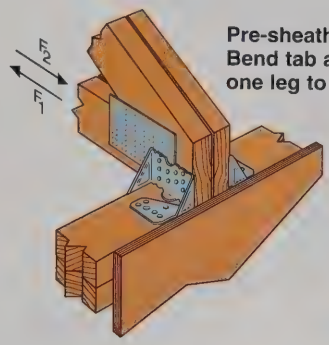
Model No.	Truss Plys	Fasteners per each TBE	
		Rafter	Plate
TBE4	1	10-10dx1½	10-10dx1½
	2 or more	10-10d	10-10d
TBE6	1	10-10dx1½	10-10dx1½
	2 or more	10-10d	10-10d

Alternate Installation

(See illustrations at right)

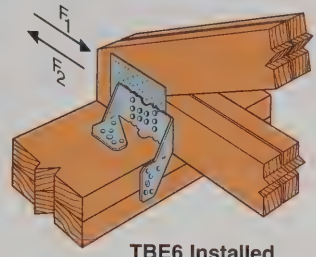
Model No.	Alternate Installation Allowable Loads[5,6]			
	Doug-Fir-Larch/So. Pine (133/160)		Spruce-Pine-Fir (133/160)	
	F_1	F_2	F_1	F_2
TBE4	300	1000	260	860
TBE6				

See table footnotes on opposite page.



Pre-sheathed shearwall. Bend tab along slot and nail one leg to top of the plate.

Wood bearing allowable loads shown in table on page 96 do not apply.



TBE6 Installed on Double 2x8 Top Plate

TC TRUSS CONNECTORS

The TC truss connector is an ideal connector for scissor trusses because it allows horizontal movement up to 1¼" during installation of roofing materials while wall is still braced for "plumb and line". The TC also attaches plated trusses to top plates or sill plates to resist uplift forces. Typically used on one or both ends of truss as determined by the building designer.

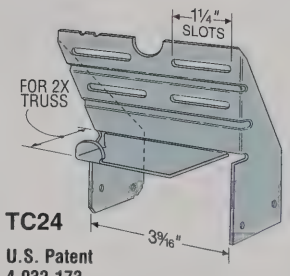
MATERIAL: 16 gauge

FINISH: Galvanized. Selected products available in Z-MAX coating.

INSTALLATION:
- Use all specified fasteners. See General Notes.
- Drive 10d nails into the truss at the inside end of the slotted holes (inside end is towards the center of the truss). Do not seat these nails into the truss–allow room under the nail head for movement of the truss with respect to the wall.

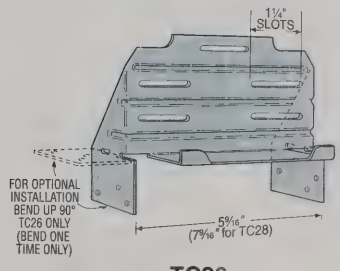
Optional TC Installation
- Bend one flange up 90°. Drive specified nails into the top and face of the top plates or install Titen® screws into the top and face of masonry wall. See optional load tables and installation details.

CODE: BOCA, ICBO, SBCCI NER-413.



TC24

U.S. Patent 4,932,173



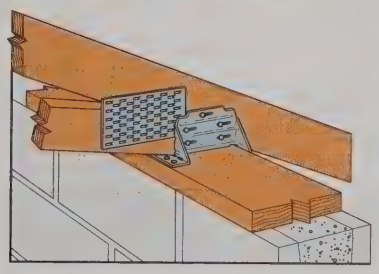
TC26
(TC28 similar)

Model No.	Fasteners		Doug-Fir-Larch/So. Pine Allowable Loads		Spruce-Pine-Fir Allowable Loads	
	Truss	Plate	Uplift (133)	Uplift (160)	Uplift (133)	Uplift (160)
TC24	4-10d	4-10d	500	600	410	410
TC26	5-10d	6-10d	625	750	540	550
TC28	5-10d	6-10d	625	750	540	550

See footnotes below.



Typical TC24 Installation

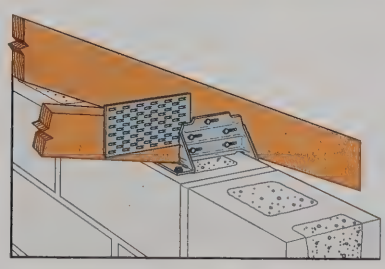


Optional TC26 Installation for Grouted Concrete Block using a Wood Nailer (8" Stud Wall Installation similar)

OPTIONAL TC INSTALLATION TABLE

Model No.	Fasteners		Doug-Fir-Larch/ So. Pine Allowable Loads		Spruce-Pine-Fir Allowable Loads		Masonry Allowable Loads	
	Truss	Plate	Uplift (133)	Uplift (160)	Uplift (133)	Uplift (160)	Uplift (133)	Uplift (160)
TC26	5-10dx1½	6-10dx1½	360	430	310	350	—	—
	5-10d	6-10d	375	450	325	390	—	—
	5-10d	6-⅜x2¼ Titen	—	—	—	—	195	195

1. Loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed.
2. Grout strength is 2000 psi minimum.
3. Nail values based on single 2x truss.
4. Optional TC26 installation with 10d nails requires minimum 3" top plate thickness.



Optional TC26 Installation for Grouted Concrete Block using Titen® Screws

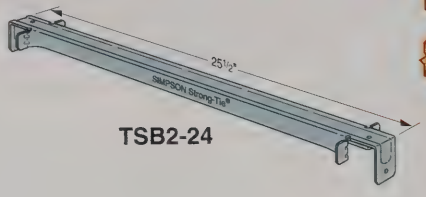
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TSB TRUSS SPACER BRACER

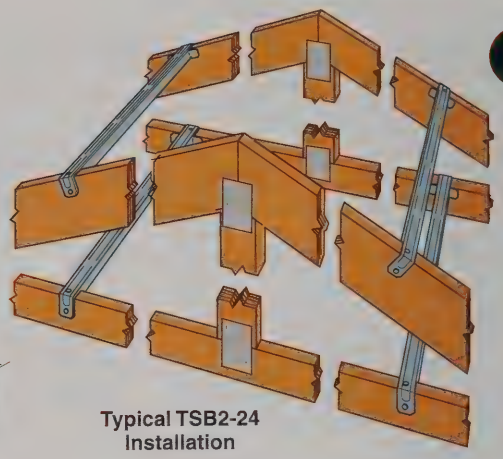
MATERIAL: 22 gauge
FINISH: Galvanized
INSTALLATION: • Use all specified fasteners; see General Notes.
- Designed for 24" o.c. spacing
- Tube shape is good for compression and tension
- Meets the TPI bracing requirements

Model No.	Fasteners	Maximum Allowable Loads	
		Compression	Tension
TSB2-24	4-10dx1½	540	365

1. No load duration increase allowed.



TSB2-24

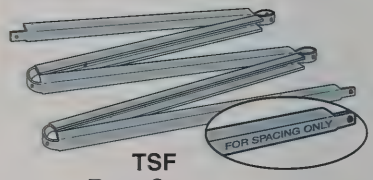

Typical TSB2-24 Installation

TSF TRUSS SPACER

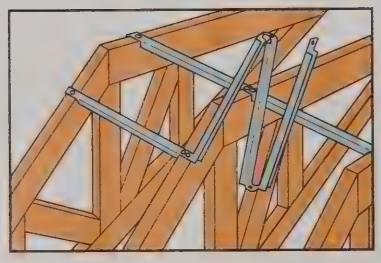
The TSF is a fast and accurate method for spacing trusses that eliminates layout marking of top plates and can be left in place under the sheathing. Accuracy is improved, spacing errors are minimized, and it is easy to use.

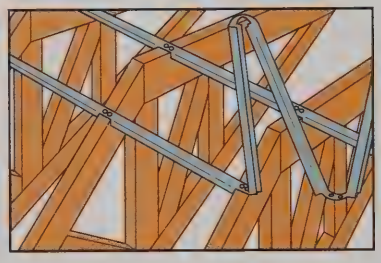
MATERIAL: 22 gauge. **FINISH:** None.
INSTALLATION: • See Installation Sequence.
- **TSF Truss Spacers do not provide bracing of any kind and are not structural members. The TSF is for spacing only.** Refer to instructions from architect, engineer, truss manufacturer or other for bracing and installation information.

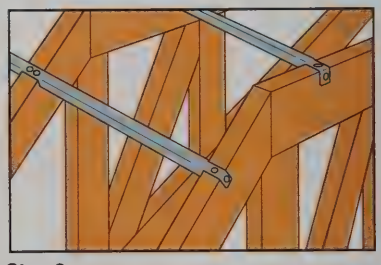
Model No.	Dimensions		
	W	O.C. Spacing	Total Length
TSF2-16	1½	16	8′
TSF2-24	1½	24	10′



TSF
Truss Spacer


Step 1
Nail the starting notch to the first member.


Step 2
As each successive member is positioned, unfold the TSF to the next notch. The notch teeth grip the member and align it for nailing.


Step 3
If the spacer does not align with the end truss, break the spacer off at the notch. Then, hammer the spacer flat, fold it under and nail.

DSC DRAG STRUT CONNECTOR

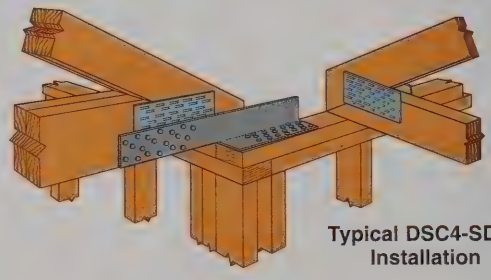
MATERIAL: 3 gauge
FINISH: Simpson Gray Paint.
INSTALLATION: • Use all specified fasteners; see General Notes.
- Screws are provided.

Model No.	L	Fasteners	Doug Fir Allowable Loads		Spruce-Pine-Fir/Hem Fir Allowable Loads	
			Compression (133)	Tension (133)	Compression (133)	Tension (133)
DSC4-SDS3	21	40-SDS¼x3	4935	4235	4035	3500

1. Allowable loads have been increased 33% for earthquake and wind loading with no further increase allowed.



DSC4-SDS3
(Right hand DSC shown; specify right or left hand when ordering)


Typical DSC4-SDS3 Installation

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ITTM HANGERS

See pages 77–84 for sizes, fasteners and load information.

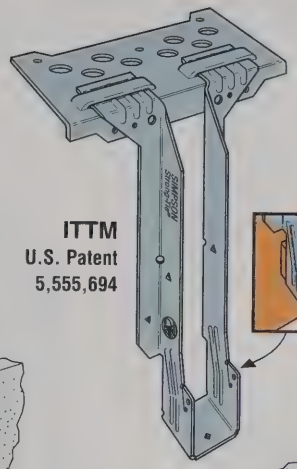
The ITTM masonry-to-wood connector can be directly embedded into a grouted block wall. It can also be installed on top of a masonry or concrete wall using Titen screws. The offset seat feature allows better joist bearing positioning. Joist top flanges are laterally restrained by the side of the hanger, eliminating the need for web stiffeners. The I-joist manufacturers may require web stiffeners.

MATERIAL: ITTM—12 gauge top flange and 18 gauge stirrup

FINISH: Galvanized

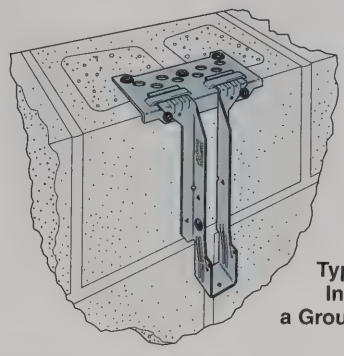
INSTALLATION: • Use all specified fasteners. Verify that the header can take the required fasteners specified in the table.

- ITTM installed into grouted block wall: embed into block with a minimum of one course of grouted block above and one course below the top flange.
- ITTM installed in concrete wall: install 3/16" x 2¼" Titens screws through preformed holes on the hanger. Install Titens into predrilled holes (5/32" in diameter) in the block or concrete.
- ITTM may be welded to steel headers with ⅛ x 1½" fillet welds located at each end of top flange. Weld-on applications produce maximum allowable load listed. Uplift loads do not apply to this application.

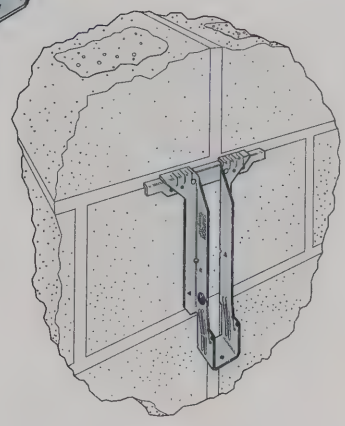


ITTM
U.S. Patent 5,555,694

Bend tab and fasten with 10dx1½" nails.



Typical ITTM Installed on a Grouted Block



Typical ITTM Installed into Concrete Block

Model	Fasteners			Allowable Loads		
	Top	Face	Joist	Uplift (133)	Uplift (160)	Masonry
ITTM Series	3-Titen[3]	2-Titen[3]	2-10dx1½	225[2]	225[2]	1545

1. ITTM loads are based on 2000 psi min concrete or grout.
2. ITTM uplift loads apply only when 2 top flange face screws are installed.
3. Titen screws are 3/16" x 2¼".

WM/WMU HANGERS

See pages 57–59 and 77–90 for sizes, fasteners and load information.

WMs are designed for use on standard 8" grouted masonry block wall construction.

MATERIAL: See tables on pages 57–59 and 77–90;
WM, WMU—12 ga. top flange and stirrup

FINISH: Simpson gray paint; hot-dipped galvanized available: specify HDG.

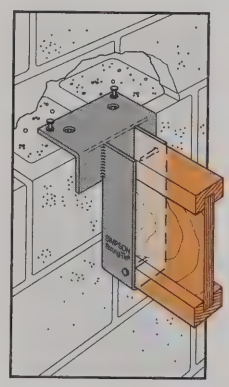
ALLOWABLE LOADS: For hanger heights exceeding the joist height, the allowable load is 0.50 of the table load.

INSTALLATION: • Use all specified fasteners. WM—two 16d duplex nails must be installed into the top flange and embedded into the grouted wall. Verify that the header can take the required fasteners specified in the table.

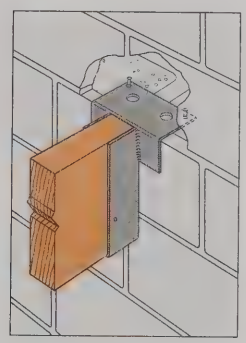
- Embed **WM** into block with a minimum of one course above and one course below the top flange with one #5 vertical rebar minimum 24" long in each cell. **Minimum grout strength is 2000 psi.**

OPTIONS: **• See Hanger Options, page 143 for hanger modifications and associated load reductions.**

CODES: BOCA, ICBO, SBCCI NER-209. City of L.A. RR24949; Dade Co FL. 98-1021.01.



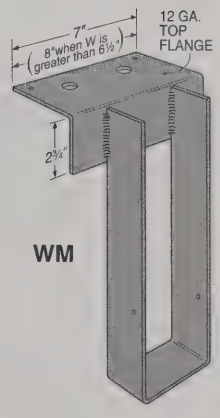
Typical WM Installation



Typical WM Installation with Alternate Nailing Pattern (ANP)

Model	Joist		Fasteners			Allowable Loads	
	Width	Depth	Top	Face	Joist	Uplift (133 & 160)	Masonry
WM/WMI	1½ to 7½	3½ to 30	2-16d DPLX	—	2-10dx1½	—	4175
WMU	1½ to 7½	9 to 18	2-16d DPLX	4-¼x1" Masonry	6-10dx1½	660	4175
	1½ to 7½	18½ to 22½	2-16d DPLX	4-¼x1" Masonry	6-10dx1½	660	4175
	1½ to 7½	23 to 28	2-16d DPLX	4-¼x1" Masonry	6-10dx1½	625	4175

1. Uplift loads have been increased 33% and 60% for wind or earthquake loading; no further increase allowed. Reduce by 33% and 60% for normal loading like cantilever construction.



WM

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MBHA MASONRY HANGERS

The MBHA is a single piece, non-welded connector available for solid sawn, truss and engineered wood products.

MATERIAL: 10 gauge

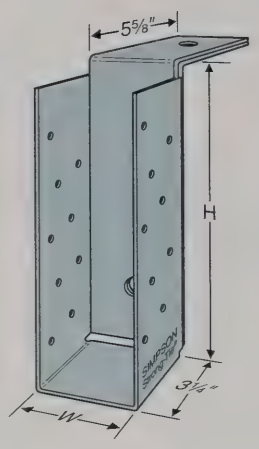
FINISH: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.

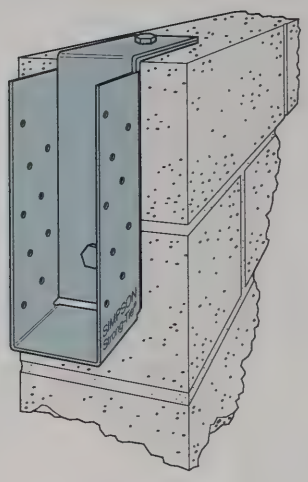
OPTIONS: See Hanger Options, page 144.

CODE: SBCCI 9603.

Model No.	Dimensions W	H
MBHA3.12/9.25	3⅛	9¼
MBHA3.12/11.25	3⅛	11¼
MBHA3.56/7.25	3⁹⁄₁₆	7¼
MBHA3.56/9.25	3⁹⁄₁₆	9¼
MBHA3.56/11.25	3⁹⁄₁₆	11¼
MBHA3.56/11.88	3⁹⁄₁₆	11⅞
MBHA3.56/14	3⁹⁄₁₆	14
MBHA3.56/16	3⁹⁄₁₆	16
MBHA3.56/18	3⁹⁄₁₆	18
MBHA5.50/7.25	5½	7¼
MBHA5.50/9.25	5½	9¼
MBHA5.50/11.25	5½	11¼
MBHA5.50/11.88	5½	11⅞
MBHA5.50/14	5½	14
MBHA5.50/16	5½	16
MBHA5.50/18	5½	18



MBHA



Typical MBHA Installation

Model No.	Fasteners[1] Header Top	Header Face	Joist	Solid Concrete Allowable Loads Uplift Avg Ult	Uplift[7] (133)	Uplift[7] (160)	Down Avg Ult	Maximum Down Load	Grouted CMU Allowable Loads Uplift Avg Ult	Uplift[7] (133)	Uplift[7] (160)	Down Avg Ult	Maximum Down Load
MBHA	1-ATR¾x8	1-ATR¾x8	18-10d	15712	3145	3775	22352	6050	11290	3145	3475	20895	5330
MBHA models with H = 7¼	1-ATR¾x8	1-ATR¾x4¾	18-10d	—	1885	1885	—	4380	5955	1885	1885	14562	4380

1. ATR is all threaded rod.
2. Allowable loads are based on a minimum of 2500 psi concrete and 2500 psi grout with one #5 horizontal rebar in the shear cone.
3. Uplift loads have been increased 33% and 60% for wind loading with no further increase allowed.
4. Loads are based on installation using Simpson ET22 Epoxy-Tie 6¾" minimum embedment required. All thread rods and/or machine bolts to be ¾" diameter x 8" long, grade A307 or better. Refer to the Anchoring Systems catalog.
5. MBHA hangers with height of 7¼" require a 3½" minimum embedment of the face bolt using ET22 Epoxy-Tie. All thread rods and/or machine bolts to be ¾" diameter x 4¾" long, grade A307 or better.
6. Additional anchorage products to be designed by others.
7. Uplift loads are for Southern Pine. For Doug Fir use 2930 lbs (133) and 3515 lbs (160).

LTA1 LATERAL TRUSS ANCHOR

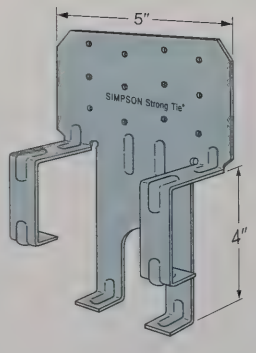
The LTA1 develops high uplift and lateral loads at a minimum heel height. Great in areas where a strap over the heel is not required. The side tabs act as a a locator in the block and the four embedded hooks provide for a positive bond in the concrete.

MATERIAL: 18 gauge

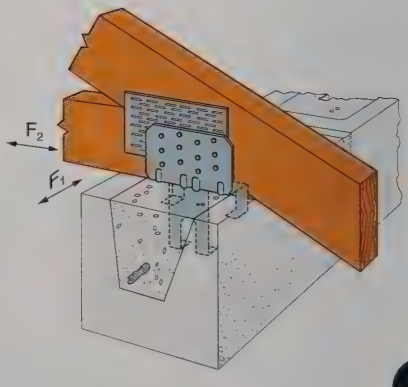
FINISH: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.

Model No.	Fasteners	Uplift Avg Ult	Doug-Fir Larch/So. Pine Allowable Loads Uplift (133)	Uplift (160)	Lateral (133/160) F_1	Lateral (133/160) F_2	Spruce-Pine-Fir Allowable Loads Uplift (133)	Uplift (160)	Lateral (133/160) F_1	Lateral (133/160) F_2
LTA1	12-10dx1½	—	1470	1765	350	1470	1250	1500	350	1250



LTA1



Typical LTA1 Installation

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META/HETA/HHETA/HETAL/TSS

EMBEDDED TRUSS ANCHORS AND TRUSS SEAT SNAP-IN

The **META** and **HHETA** offer increased uplift capacity. This series provides an engineered method to properly attach roof trusses to concrete and masonry walls. The HETA has a heavier gauge; HETA have a staggered nail pattern for greater uplift resistance.

The TSS, a companion product of the META, provides a moisture barrier between the concrete and truss. The preassembled unit is riveted with no height adjustment.

MATERIAL: HHETA–14 gauge; HETA–16 ga; HETAL strap 16 gauge, truss seat 18 gauge; META–18 gauge; TSS–22 gauge.

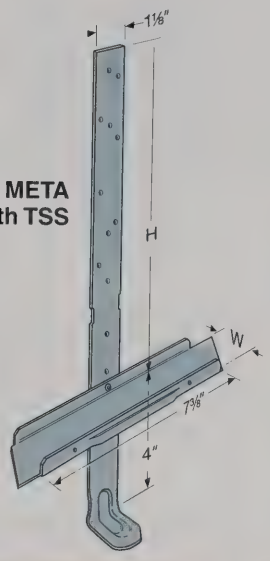
FINISH: Galvanized. Some products available in Z-MAX; see Corrosion Resistance, page 5.

INSTALLATION: • Use all specified fasteners. See General Notes.

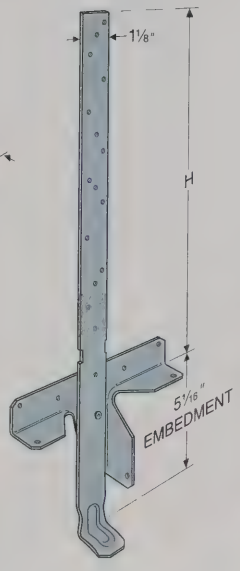
- The HETA is embedded 4" into a poured concrete bond beam or grouted block wall; HETAL is embedded 5¹⁄₁₆". Minimum fc: 2000 psi.
- HETAL: Min. center to center spacing is 10⅛"; 8" for all others.
- Do not drive nails through the truss plate on the opposite side of the truss, which could force the plate off the truss.
- The TSS moisture barrier may be preattached to the truss using 6d commons.

CODES: BOCA, ICBO, SBCCI NER-393, NER-469; SBCCI 9603.

Model No.	W
TSS2	1¾
TSS2-2	3⅛
TSS4	3⅝



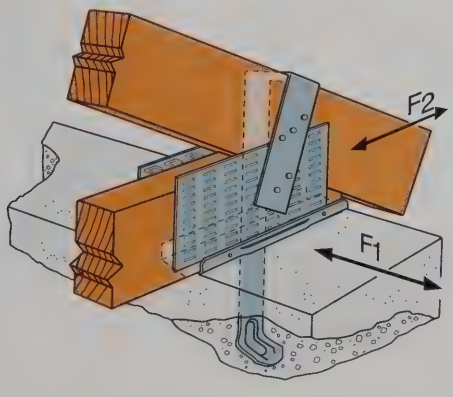
META with TSS



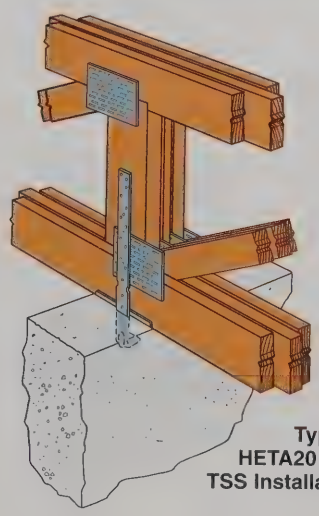
HETAL

Model No.	H	Fasteners & Uplift									Lateral Loads (133 & 160)			
		1 Ply Truss	Doug-Fir-Larch/ So. Pine Uplift		Spruce-Pine-Fir Uplift		2 or 3 Ply Truss	Doug-Fir-Larch/ So. Pine Uplift		Spruce-Pine-Fir Uplift		Doug-Fir-Larch/ So. Pine		Spruce-Pine-Fir	
			(133)	(160)	(133)	(160)		(133)	(160)	(133)	(160)	F_1	F_2	F_1	F_2
META12	8	7-10dx1½	870	1040	745	895	7-16d	1270	1500	1090	1310	65	85	55	75
META14	10	10-10dx1½	1240	1490	1065	1280	10-16d	1500	1500	1500	1500	65	85	55	75
META16	12	12-10dx1½	1490	1500	1280	1500	10-16d	1500	1500	1500	1500	65	85	55	75
META18	14	14-10dx1½	1500	1500	1495	1500	10-16d	1500	1500	1500	1500	65	85	55	75
META20	16	14-10dx1½	1500	1500	1500	1500	10-16d	1500	1500	1500	1500	365	315	315	270
META22	18	14-10dx1½	1500	1500	1500	1500	10-16d	1500	1500	1500	1500	365	315	315	270
META24	20	14-10dx1½	1500	1500	1500	1500	10-16d	1500	1500	1500	1500	365	315	315	270
META40	36	14-10dx1½	1500	1500	1500	1500	10-16d	1500	1500	1500	1500	—	—	—	—
HETA12	8	6-10dx1½	745	895	640	770	6-16d	1095	1315	945	1135	65	85	55	75
HETA16	12	11-10dx1½	1365	1635	1175	1410	11-16d	1890	1890	1730	1890	65	85	55	75
HETA20	16	10-10dx1½	1240	1490	1065	1280	10-16d	1825	1890	1575	1890	65	85	55	75
		12-10dx1½	1490	1785	1280	1535	12-16d	1890	1890	1890	1890	365	315	315	270
		14-10dx1½	1735	1890	1495	1790	12-16d	1890	1890	1890	1890	365	315	315	270
		16-10dx1½	1890	1890	1705	1890	12-16d	1890	1890	1890	1890	365	315	315	270
HETA24	20	16-10dx1½	1890	1890	1705	1890	12-16d	1890	1890	1890	1890	365	315	315	270
HETA40	36	8-10dx1½	990	990	855	1025	8-16d	1460	1755	1260	1510	—	—	—	—
HHETA12	12	7-10dx1½	875	1055	765	920	7-16d	1295	1555	1120	1345	65	85	55	75
HHETA16	16	12-10dx1½	1505	1805	1310	1575	12-16d	2225	2310	1920	2305	365	315	315	270
HHETA20	20	17-10dx1½	2130	2310	1860	2230	15-16d	2310	2310	2310	2310	365	315	315	270
HHETA24	24	21-10dx1½	2310	2310	2295	2310	15-16d	2310	2310	2310	2310	365	315	315	270
HHETA40	40	22-10dx1½	2310	2310	2310	2310	15-16d	2310	2310	2310	2310	—	—	—	—
HETAL12	7	10-10dx1½[2]	745	895	640	770	10-16d[2]	1095	1315	945	1135	415	1100	355	945
HETAL16	11	15-10dx1½[2]	1365	1635	1175	1410	15-16d[2]	1890	1890	1730	1890	415	1100	355	945
HETAL20	15	15-10dx1½[2]	1890	1890	1705	1890	15-16d[2]	1890	1890	1890	1890	415	1100	355	945

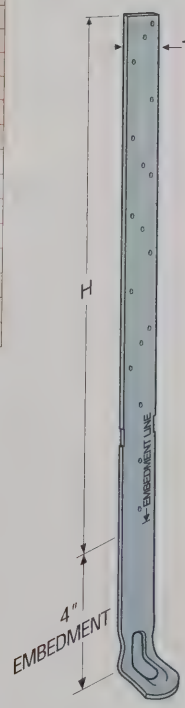
1. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce by 33% and 60% for normal loading criteria, for example, cantilever construction.
2. Five nails must be installed into the truss seat.
3. Parallel-to-Plate load towards face of HETAL is 1975 lbs.
4. META, HETA and HHETA with H=16" and greater have the strap wrapped over the heel to provide higher lateral loads.



Typical META Installed with TSS



Typical HETA20 with TSS Installation



HETA20 (HHETA similar)

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LGT2/MGT/HGT HEAVY GIRDER TIEDOWNS

The LGT2 and MGT provide lighter load alternatives for girder tiedowns.

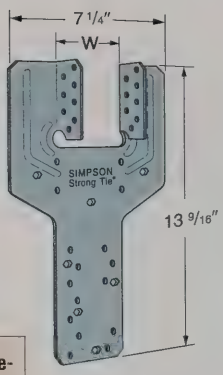
The HGT-4 is sized for 4-2x widths. This series provides high uplift resistance for wood frame and concrete block construction. Can be installed on trusses and beam with top chord slopes from 3:12 to 8:12. Available in 2-ply, 3-ply and 4-ply widths.

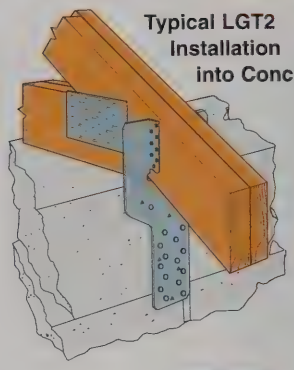
MATERIAL: LGT—14 gauge; MGT—12 gauge; HGT—7 gauge.

FINISH: Simpson gray paint

INSTALLATION: • When the HGT-3 is used with a 2-ply girder or beam, shimming is required. Fasten to act as one unit.
• Attach to grouted concrete block.

CODE: BOCA, ICBO, SBCCI NER-432.





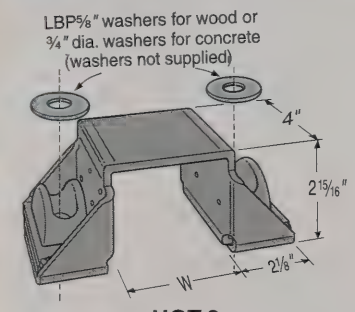
Typical LGT2 Installation into Concrete

Model No.	W	O.C. Dim Between Anchors	Fasteners: Anchor Dia. Concrete	Fasteners: Girder	Avg Ult	Doug-Fir-Larch/ So. Pine Allowable Loads (133/160)	Spruce-Pine-Fir Allowable Loads (133/160)
MGT	3 3/4	—	5/8	22-10d	—	4200	3655
HGT-2	3 5/16	5 3/4	3/4	8-10d	28333	8665	6485
HGT-3	4 15/16	7 3/8	3/4	8-10d	29833	9685	9035
HGT-4	6 5/16	9	3/4	16-10d	29137	9685	9685

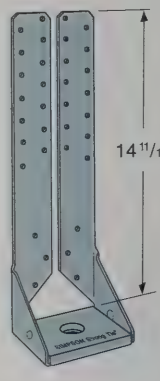
Masonry Application

Model No.	W	O.C. Dim Between Anchors	Fasteners: Block	Fasteners: Girder	Avg Ult	Doug-Fir-Larch/ So. Pine Allowable Loads (133/160)	Spruce-Pine-Fir Allowable Loads (133/160)
LGT2	3 1/8	—	7-1/4x2 1/4 Titen	14-16d sinker	5531	1780	1780

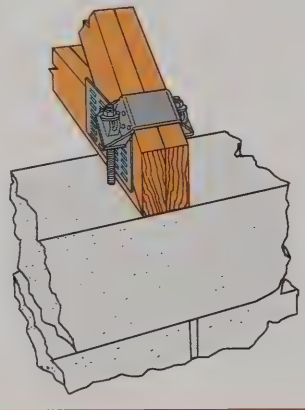
1. Attached members must be designed to resist applied loads.
2. Allowable loads in 8" wide tie-beam using Simpson Epoxy-Tie: with 2500 psi tie-beam = 6,710 lbs (HGT-2) and 8,750 lbs (HGT-3); with 3000 psi tie-beam = 7,395 lbs (HGT-2) and 9,650 lbs (HGT-3). Load values have been reduced to reflect actual o.c. spacing of HGT anchors. Minimum embedment depth for 3/4" dia anchor is 5".
3. Additional anchorage products to be designed by others.
4. Allowable loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed.



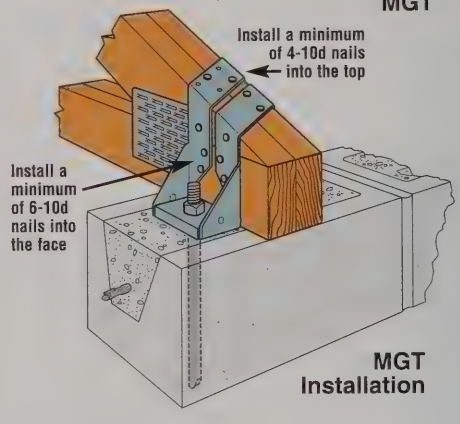
HGT-2
(HGT-3, HGT-4 similar)



MGT



Typical HGT-2 Installation into Concrete (3/4" diameter standard washers required for concrete)



MGT Installation

MTSM/HTSM TWIST STRAPS

The MTSM and HTSM offer high strength truss to masonry connections.

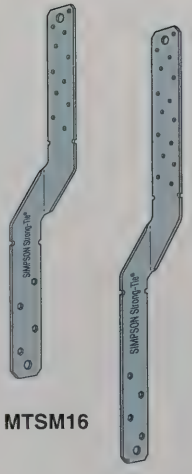
MATERIAL: MTSM–16 gauge; HTSM–14 gauge

FINISH: Galvanized. Some products available in stainless steel and Z-MAX; see Corrosion-Resistance, page 5.

INSTALLATION: • Use all specified fasteners. See General Notes.
• Attach to grouted concrete block.

Model No.	L	Fasteners[2]: Truss	Fasteners[2]: Concrete Block	Avg Ult	Doug-Fir-Larch/So Pine Allowable Uplift Loads[1]: 10d	Doug-Fir-Larch/So Pine Allowable Uplift Loads[1]: 10dx1 1/2"		Spruce-Pine-Fir Allowable Uplift Loads[1]: 10d	Spruce-Pine-Fir Allowable Uplift Loads[1]: 10dx1 1/2"	
					(133/160)	(133)	(160)	(133/160)	(133)	(160)
MTSM16	16	7-10d	4-1/4x2 1/4 Titen	—	1000	840	1000	860	730	860
MTSM20	20	7-10d	4-1/4x2 1/4 Titen	—	1000	840	1000	860	730	860
HTSM16	16	8-10d	4-1/4x2 1/4 Titen	—	1260	1005	1150	1085	865	990
HTSM20	20	10-10d	4-1/4x2 1/4 Titen	—	1260	1005	1150	1085	865	990

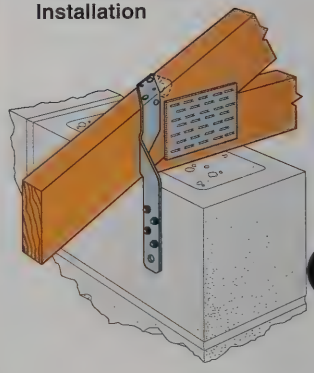
1. Loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed.
2. Twist straps do not have to be wrapped over the truss to achieve the load.
3. Minimum end distance for Titens (MTSM) is 1½".



MTSM16

MTSM20

Typical MTSM20 Installation



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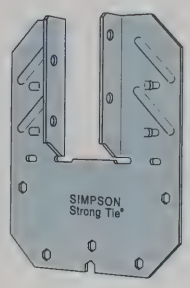
The HM9 is designed to retrofit roof truss/rafters for block construction. The HM9 hurricane tie provides high uplift and lateral capacity using Simpson concrete fasteners.

The presloped 5/12 seat of the H16 provides for a tight fit and reduced deflection. The strap length provides for various truss height up to a maximum of 13½". Minimum heel height for H16 and H16S is 4".

MATERIAL: See table

FINISH: Galvanized; other models available in stainless steel or Z-MAX; see Corrosion-Resistance, page 5.

INSTALLATION: • Use all specified fasteners. See General Notes.
• HGAM10 can be installed into grouted concrete block. Screws are provided.
• Hurricane Ties do not replace solid blocking.
• Attach to grouted concrete block.



HM9

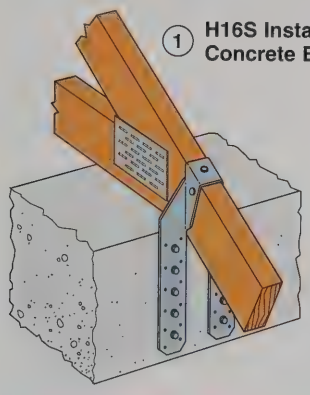


H16

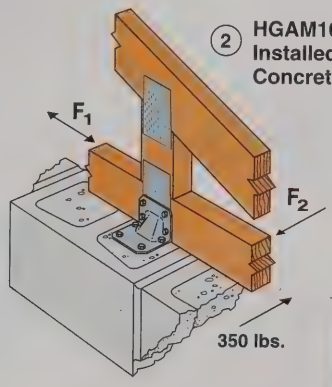
Presloped at 5:12. Pitch of 3:12 to 7:12 is acceptable

Model No.	Ga	Fasteners			Uplift Avg Ult	Doug-Fir Larch/So. Pine Allowable Loads[1,2]				Uplift Load with 8dx1½" Nails (133 & 160)	Spruce-Pine-Fir Allowable Loads[1,2]				Uplift Load with 8dx1½" Nails (133 & 160)
		To Rafters/ Truss	To Plates	To Studs		Uplift		Lateral (133/160)			Uplift		Lateral (133/160)		
						(133)	(160)	F_1	F_2		(133)	(160)	F_1	F_2	
HM9	18	4-SDS¼x1½	5-¼x2¼ Titen	—	1987	595	595	425	125	—	595	595	425	125	—
HGAM10[3]	14	4-SDS¼x1½	4-3/16x1¼ Titen	—	827	260	260	1005	1105	—	225	225	870	815	—
H16	18	2-10dx1½	6-¼x2¼ Titen	—	—	1600	1600	—	—	—	1300	1300	—	—	—
H16S	18	2-10dx1½	6-¼x2¼ Titen	—	—	1600	1600	—	—	—	1300	1300	—	—	—

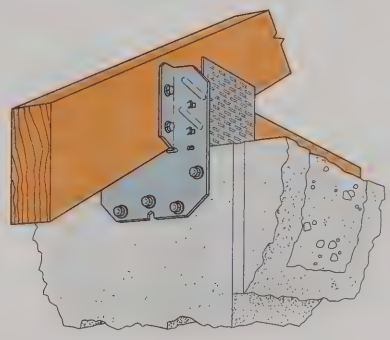
1. Loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.
2. Allowable loads are for one anchor. A minimum rafter thickness of 2½" must be used when framing anchors are installed on each side of the joist and on the same side of the plate.
3. The HGAM10 was tested into masonry using Simpson's Titen screws.



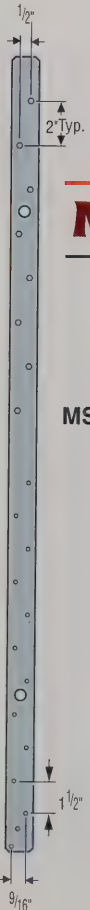
① H16S Installed into Concrete Block



② HGAM10 Installed into Concrete Block



③ HM9 attaching truss to concrete



MSTAM/MSTCM STRAP TIES

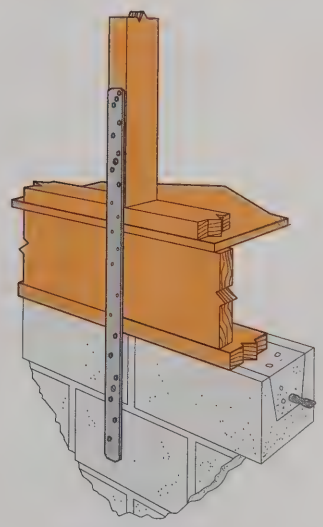
MSTAM and MSTCM models are designed for wood to masonry applications.

The MSTC series, with 2 different strap sizes, has countersunk nail slots for a lower nailing profile. Coined edges ensure safer handling.

FINISH: Galvanized. Some products are available in stainless steel or Z-MAX; see Corrosion-Resistance, page 5.

INSTALLATION: • Use all specified fasteners. See General Notes.
• Attach to grouted concrete block.

MSTAM36



Typical MSTAM36 Installation

Masonry Application

Model No.	Ga	Dimensions		Fasteners (Total)		Allowable Tension Loads		
		W	L	Nails	Titen Screws	Floor (100)	(133)	(160)
MSTAM24	18	1¼	24	9-10d	5-¼x2¼	1025	1370	1545
MSTAM36	16	1¼	36	13-10d	8-¼x2¼	1435	1915	1915
MSTCM40	16	3	40¼	27-16d sinkers	14-¼x2¼	2475	2475	2475

1. Minimum edge distance 1½" using Titen screws.

Floor-to-Floor Clear Span Table

Model No.	Clear Span	Fasteners (Total)		Allowable Loads	
		Nails	Titen Screws	(133)	(160)
MSTAM36	16 or 18	7-10d	4-¼x2¼	900	900
MSTCM40	16 or 18	18-16d Sinkers	11-¼ x 2¼	2145	2475

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HCAs offer single-piece side plates, for fewer welds and higher horizontal loads. The Horizontal Load Table gives comparable HC models.

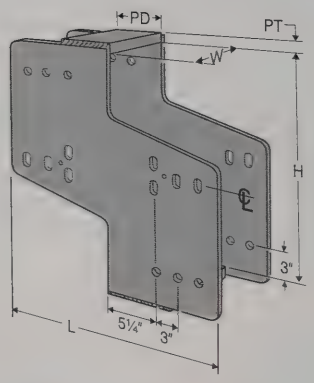
MATERIAL: Side plates–7 gauge;
Top and bottom plates–see PT dimensions in table.

FINISH: Simpson gray paint

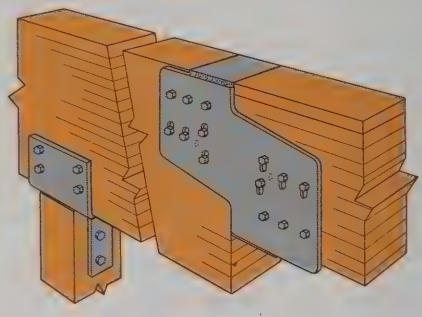
INSTALLATION: • Use all specified fasteners. See General Notes.
- All bolts specified are ¾" MBs. Bolt holes shall be a minimum of 1/32" and a maximum of 1/16" larger than the bolt diameter (per 1997 NDS, sec.8.1.2.1.).
- The model number column in the Allowable Download Table gives the basic HCA model with two rotation bolts.
- Max. height available is 60"; contact Simpson for heights greater than 60".
- Position bolts in slots away from bearing seat to allow for wood shrinkage.

OPTIONS: The Horizontal Load Table gives other bolt options. To order, add the width and bearing plate size designation after the model name. Specify the H dimension. For dapped beams, reduce the H dimension by the PT dimension for each dap.
Call us for our Connector Selection Guide for commercial applications.

CODES: ICBO 4935; City of L.A. RR 25248.



HC4C3TA
U.S. Patent 5,324,132



Typical HC4C3TA Installation with Beam Top Dapped

HORIZONTAL LOAD TABLE

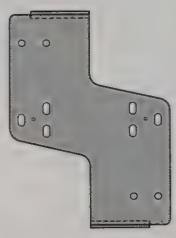
Model No. (Prefix)	L	H[4] Min	H Max	Rotation Bolts Per Beam	Slotted Tension Bolts	Allowable Horizontal Loads[2,3] (133)	Allowable Horizontal Loads[2,3] (160)	Comparable HC
HCA	19½	8	60	2	—	—	—	HC
HC2CTA	19½	14	60	2	2	8265	9920	HC2CT
HCCTA	19½	14	60	2	3	12375	14850	HCCT
HC4CTA	25½	14	60	2	4	16430	19720	HC4CT
HC3A	25½	8	60	3	—	—	—	HC3
HCC3TA	25½	14	60	3	3	12375	14850	HCC3T
HC4C3TA	25½	14	60	3	4	16430	19720	HC4C3T

1. Loads include a 33% and 60% increase for earthquake or wind loading with no further increase allowed.
2. Horizontal loads are for Doug Fir-larch glulams minimum W = 3⅛". For other wood types, adjust the load according to the code.
3. H MIN is the absolute minimum height. Reduce downloads according to footnote 1. in the Allowable Download Table.

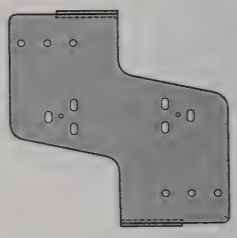
ALLOWABLE DOWNLOAD TABLE

Model Size Suffix	Dimensions W	Dimensions PT	Dimensions PD	Two Rotation Bolts Per Beam H1	Two Rotation Bolts Per Beam H1 Allowable Roof Loads (125)[2,3]	Two Rotation Bolts Per Beam Min H	Two Rotation Bolts Per Beam Min H Allowable Roof Loads (125)	Three Rotation Bolts Per Beam[4] H1	Three Rotation Bolts Per Beam[4] H1 Allowable Roof Loads (125)[2,3]	Three Rotation Bolts Per Beam[4] Min H	Three Rotation Bolts Per Beam[4] Min H Allowable Roof Loads (125)
3-5	3¼	¾	5	12	8750	8	2995	11	8750	8	4355
3-6	3¼	¾	6	15	10500	8	2505	12	10500	8	3645
3-7	3¼	¾	7	18	12250	8	2155	14	12250	8	3130
3-9	3¼	¾	9	25	15750	8	1680	19	15750	8	2445
5-5	5¼	¾	5	16	14350	8	3025	13	14350	8	4445
5-6	5¼	¾	6	20	17220	8	2530	16	17220	8	3720
5-7	5¼	¾	7	25	20090	8	2175	19	20090	8	3195
5-9	5¼	¾	9	37	25830	8	1700	27	25830	8	2495
7-5	6⅞	1	5	19	18900	8	3025	15	18900	8	4490
7-6	6⅞	1	6	24	22680	8	2530	19	22680	8	3755
7-7	6⅞	1	7	31	26460	8	2175	23	26460	8	3230
7-9	6⅞	1	9	40	28865	8	1700	33	34020	8	2520
9-5	8⅞	1¼	5	23	24500	8	3025	17	24500	8	4490
9-6	8⅞	1¼	6	30	29400	8	2530	22	29400	8	3755
9-7	8⅞	1¼	7	38	34300	8	2175	28	34300	8	3230
9-9	8⅞	1¼	9	40	28865	8	1700	40	42865	8	2520
11-5	10⅞	1½	5	26	30100	8	3025	20	30100	8	4490
11-6	10⅞	1½	6	35	36120	8	2530	26	36120	8	3755
11-7	10⅞	1½	7	40	36970	8	2175	33	42140	8	3230
11-9	10⅞	1½	9	40	28865	8	1700	40	42865	8	2520

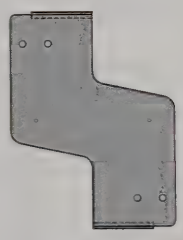
1. For H dimension between H1 and Minimum H, decrease allowable loads in direct proportion to depth.
2. Loads include a 25% increase for roof live loads; reduce for other load durations according to the code.
3. Loads are for 560 psi wood bearing.
4. See Options Table for models with three rotation bolts.



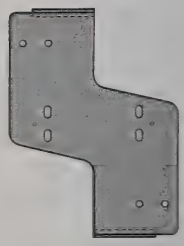
HCCTA



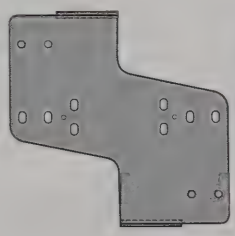
HCC3TA



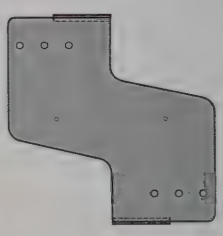
HCA



HC2CTA



HC4CTA



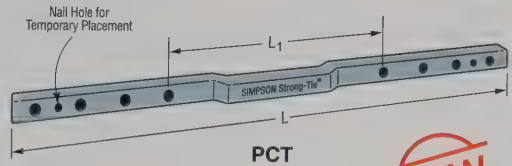
HC3A

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PCT PURLIN CROSSTIE

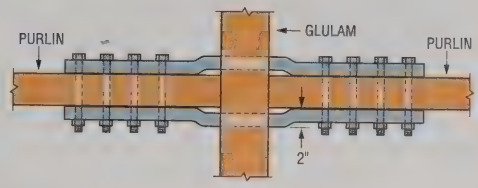
Designed using a section that works in both tension and compression.
Finish: Galvanized.
- Tube section helps with drilling alignment, through the purlin
- Offset angle to allow drilling access through glulam
- Maximum 2½" diameter hole
- Install in pairs

Options: Contact the factory for other lengths.



PCT
Patent Pending

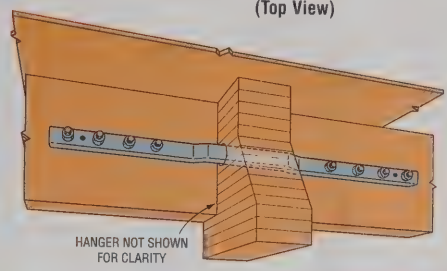
NEW



PCT Installed - Pairs
(Top View)

Model No.	Thickness T	Total Length L	L_1	No. and Size of Fasteners	Allowable Compression Load (lbs) for a Pair	Douglas Fir-Larch/Southern Pine Allowable Tension Loads (lbs) - Double Shear Length of Bolt in Purlin (Pair)				
						3 1/8"	3 1/2"	5 1/8"	5 1/2"	6 3/4"
PCT18	1/8"	44 3/4"	17 3/4"	8 - 5/8MB	19165	13680	15010	15520	15715	15520
PCT23	1/8"	52 3/4"	17 3/4"	10 - 5/8MB	19165	16525	17965	19000	19360	19000
PCT27	3/16"	66 1/2"	23 1/2"	12 - 5/8MB	28665	18690	20115	22920	22800	22920
PCT38	3/16"	71 1/2"	23 1/2"	12 - 3/4MB	28665	21245	22695	32350	32110	32350

1. Allowable loads have been increased 33% for wind or earthquake loading. No further increase allowed.
2. Install in pairs.



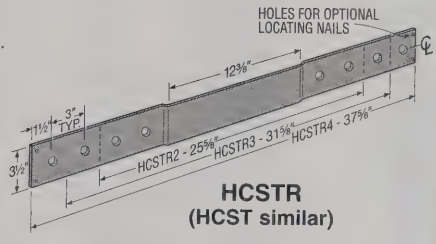
PCT Installed

HCSTR HINGE CONNECTOR STRAPS

Use Hinge connector straps for retrofit applications to strap horizontal wood members together where a hinge connector interferes.

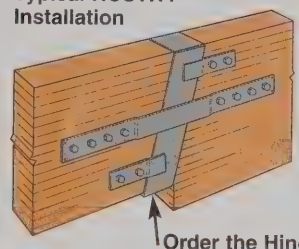
All bolt holes shall 1/32" (minimum) and 1/16" (maximum) larger than the bolt diameter (1997 NDS, section 8.1.2.1.)

MATERIAL: HCSTR2, HCSTR3–7 gauge; HCSTR4–3 gauge.
FINISH: Simpson gray paint
OPTIONS: • Where wood is subject to shrinkage, order an HCST2, HCST3 or HCST4 for straps with obround holes.
• Contact factory for longer lengths.



HCSTR
(HCST similar)

Typical HCSTR4 Installation



Order the Hinge Connector separately

Model No.	Fasteners (Total)		Allowable Loads	
	Qty	Dia	(133)	(160)
HCSTR2	4	¾	8100	9725
HCSTR3	6	¾	11805	14170
HCSTR4	8	¾	15640	18770

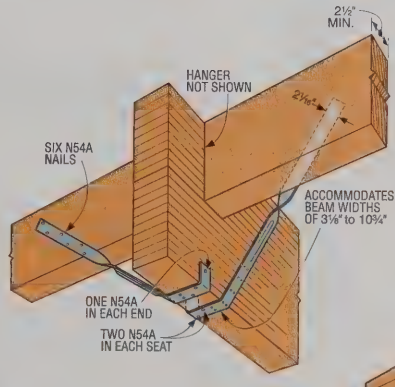
1. Allowable loads are for straps used in pairs and include a 33% and 60% increase for earthquake or wind loading; no further increase allowed.
2. Allowable loads assume a carrying member of 5⅛" minimum thickness with bolts in double shear.
3. Designed for HC style hinge connectors; consult factor for lengths for HCA style hinge connectors.

VB/VBP KNEE BRACES

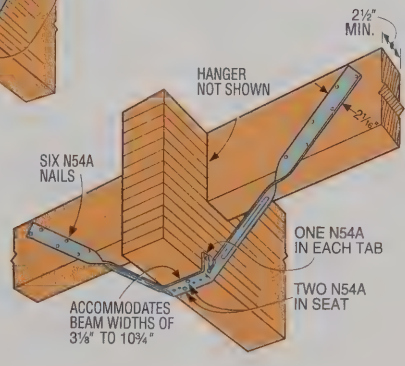
The VBP is a 2-piece knee brace which allows easier handling and installation.

The VB provides lateral resistance force at the bottom of beams when installed approximately 45° or more to the vertical plane.

MATERIAL: 12 gauge. **FINISH**: Galvanized
INSTALLATION: • Use specified fasteners. See General Notes.
• VBP–must be installed in pairs; nine N54A fasteners are supplied with each brace. Install 18 fasteners (total) per pair.
• VB–16 N54A fasteners are included with the brace.
CODES: BOCA, ICBO, SBCCI NER-413; City of L.A. RR 25119.



Typical VBP Installation



Typical VB Installation

Model No.	H (Beam Depth)	L	Fasteners (Total)	Avg Ult	Allowable Tension Loads[1]	
					Floor (100)	Roof (125)
VB5	10" - 15"	5'	16-N54A	—	990	1240
VB7	15" - 22½"	7'	16-N54A	—	990	1240
VB8	22½" - 28½"	8'	16-N54A	—	990	1240
VB10	28½" - 36"	10'	16-N54A	—	990	1240
VB12	36" - 42"	12'	16-N54A	—	990	1240
VBP5	10" - 15"	3.1'	18-N54A	8600	990	1240
VBP7	15" - 22½"	4.1'	18-N54A	8600	990	1240
VBP8	22½" - 28½"	4.6'	18-N54A	8600	990	1240
VBP10	28½" - 36"	5.6'	18-N54A	8600	990	1240
VBP12	36" - 42"	6.6'	18-N54A	8600	990	1240

1. Roof loads have been increased 25% with no further increase allowed.

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RPS/ST/FHA/PS/HST/LSTA/LSTI/ MST/MSTA/MSTC/MSTI *STRAP TIES*

The MSTC series, with 2 different strap sizes, has countersunk nail slots for a lower nailing profile. Coined edges ensure safer handling. The RPS meets UBC and City of Los Angeles code requirements for notching plates where plumbing, heating or other pipes are placed in partitions.

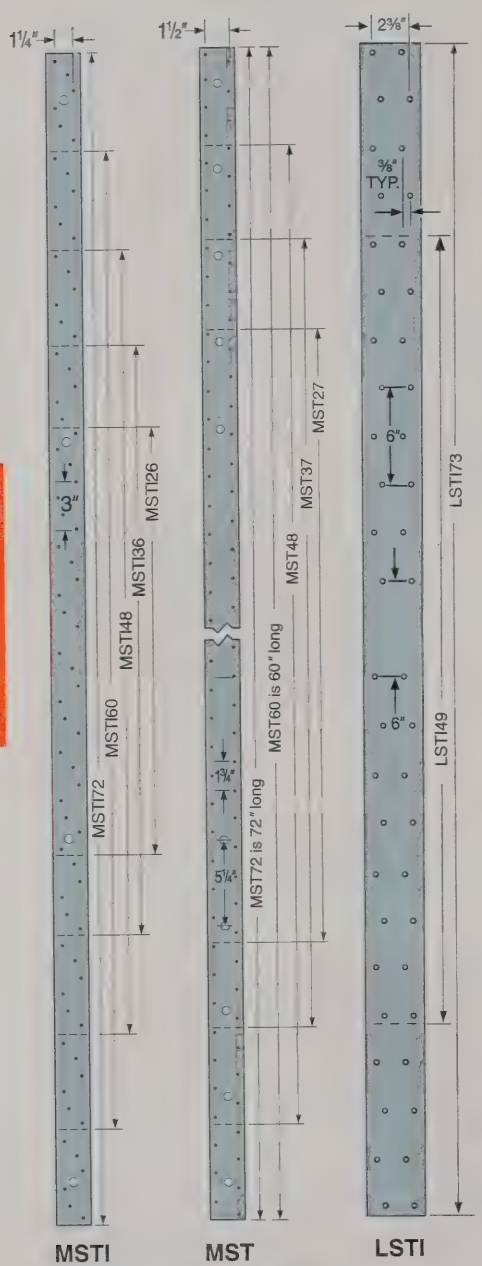
Install Strap Ties where plates or soles are cut, at wall intersections, and as ridge ties. LSTA and MSTA straps are engineered for use on 1½" members. The 3" center-to-center nail spacing reduces the possibility of splitting. For the MST, this may be a problem on lumber narrower than 3½"; either fill every nail hole with 10dx1½" nails or fill every other nail hole with 16d commons. Reduce the allowable load based on the size and quantity of fasteners used. The LSTI light strap ties are suitable where gun-nailing is necessary through diaphragm decking and wood chord open web trusses.

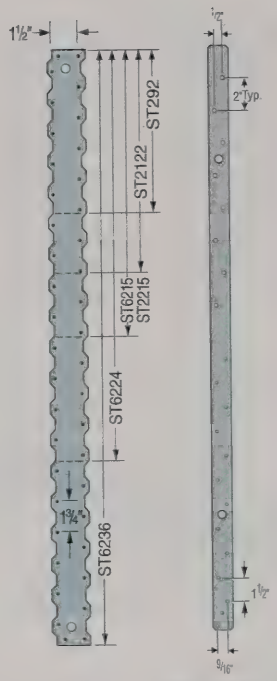
FINISH: HST–Simpson gray paint; PS–HDG; all others–galvanized. Some products are available in stainless steel or Z-MAX; see Corrosion-Resistance, page 5.

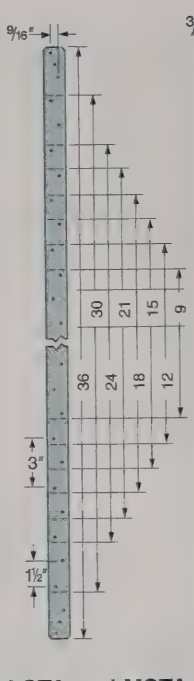
INSTALLATION: Use all specified fasteners. See General Notes.

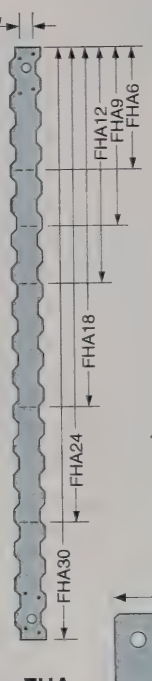
OPTIONS: Special sizes can be made to order. See also HCST.

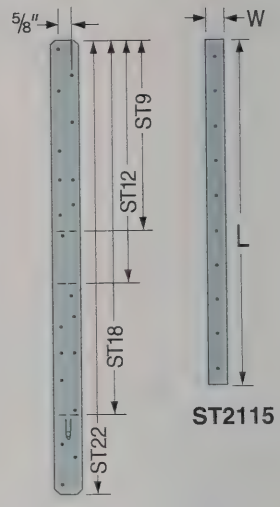
CODES: BOCA, ICBO, SBCCI NER-413, NER-443; ICBO 4935, 5357; Dade County, FL 96-1126.11. City of L.A. RR 25119, RR 25149, RR 25281.

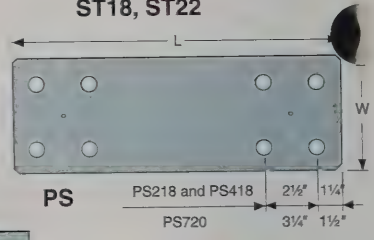


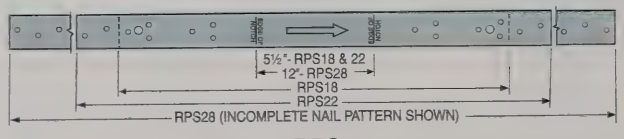


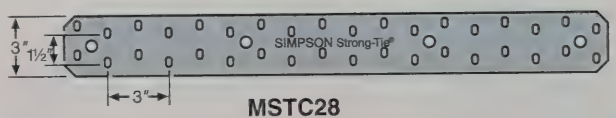


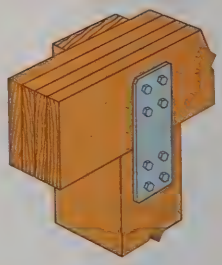


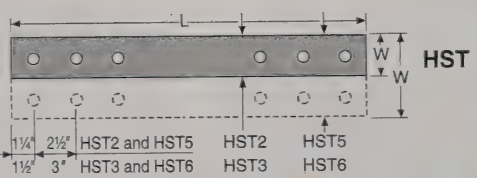


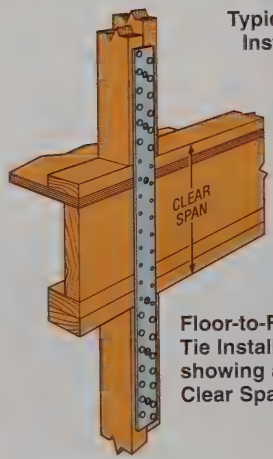




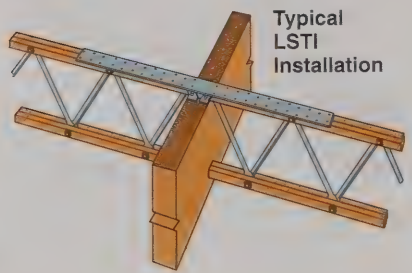


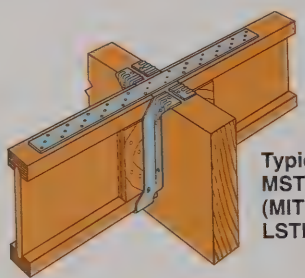

Typical PS720 Installation





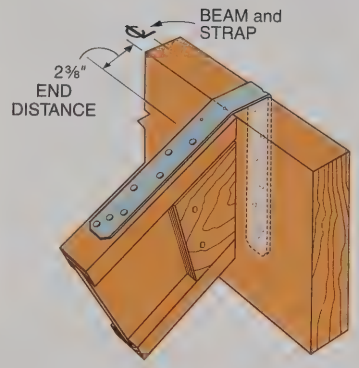
Floor-to-Floor Tie Installation showing a Clear Span


Typical LSTI Installation

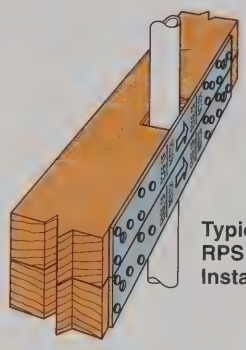

Typical MSTI Installation (MIT hanger shown) LSTI similar

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Model No.	Ga	Dimensions W	Dimensions L	Fasteners (Total) Nails	Allowable Tension Loads Floor (100)	(133)	(160)
RPS18	16	1½	18⅝	12-16d	810	1080	1295
RPS22		1½	22⅝	16-10d	905	1205	1445
RPS28		1½	28⅝	12-16d	810	1080	1295
LSTA9	20	1¼	9	8-10d	450	605	725
LSTA12		1¼	12	10-10d	565	755	905
LSTA15		1¼	15	12-10d	680	905	1085
LSTA18		1¼	18	14-10d	790	1055	1265
LSTA21		1¼	21	16-10d	905	1205	1295
LSTA24		1¼	24	18-10d	1015	1295	1295
ST292		2⅛	9⅝	12-16d	790	1055	1130
ST2122		2⅛	12¹³⁄₁₆	16-16d	1070	1425	1505
ST2115		¾	16⅝	10-16d	450	600	600
ST2215		2⅛	16⅝	20-16d	1270	1695	1695
LSTA30	18	1¼	30	22-10d	1255	1670	1715
LSTA36		1¼	36	26-10d	1480	1715	1715
LSTI49		3¾	49	32-10dx1½	1455	1940	2330
LSTI73		3¾	73	48-10dx1½	2185	2910	3495
MSTA9		1¼	9	8-10d	455	610	730
MSTA12		1¼	12	10-10d	570	760	910
MSTA15		1¼	15	12-10d	685	910	1095
MSTA18		1¼	18	14-10d	800	1065	1275
MSTA21		1¼	21	16-10d	910	1215	1460
MSTA24		1¼	24	18-10d	1025	1370	1640
MSTA30	16	1¼	30	22-10d	1265	1685	2025
MSTA36		1¼	36	26-10d	1495	1995	2135
ST6215		2⅛	16⅝	20-16d	1330	1775	2130
ST6224		2⅛	23⅝	28-16d	1890	2520	2630
ST9		1¼	9	8-16d	530	705	850
ST12		1¼	11⅝	10-16d	665	885	1065
ST18		1¼	17¾	14-16d	900	1200	1200
ST22		1¼	21⅝	18-16d	1025	1370	1370
MSTC28		3	28¼	36-16d sinkers	2070	2760	3310
MSTC40		3	40¼	52-16d sinkers	2990	3985	4740
MSTC52		3	52¼	62-16d sinkers	3555	4740	4740
MSTC66	14	3	65¾	76-16d sinkers	4390	5855	5855
MSTC78		3	77¾	76-16d sinkers	4390	5855	5855
ST6236		2⅛	33¹³⁄₁₆	40-16d	2575	3430	3430
FHA6	12	1⅞	6⅜	8-16d	550	735	885
FHA9		1⅞	9	8-16d	550	735	885
FHA12		1⅞	11⅝	8-16d	550	735	885
FHA18		1⅞	17¾	8-16d	550	735	885
FHA24		1⅞	23⅞	8-16d	550	735	885
FHA30		1⅞	30	8-16d	550	735	885
MSTI26		2⅛	26	26-10dx1½	1130	1510	1810
MSTI36		2⅛	36	36-10dx1½	1565	2090	2505
MSTI48		2⅛	48	48-10dx1½	2135	2850	3420
MSTI60		2⅛	60	60-10dx1½	2760	3680	4415
MSTI72		2⅛	72	72-10dx1½	3310	4415	4725



Typical LSTA Installation (hanger not shown)



Typical RPS Installation

Model No.	Plate	Notch Width
RPS18	2x4	≤ 5½"
RPS22	2x6	≤ 5½"
RPS28	2x4	≤ 12"

Model No.	Ga	Dimensions W	Dimensions L	Bolts Qty	Bolts Dia
PS218[6]	7	2	18	4	⅝
PS418[6]		4	18	4	⅝
PS720[6]		6¾	20	8	½

CS/CMST FLOOR TIE ANCHORS

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Typical LSTA Installation (hanger not shown)

Floor-to-Floor Clear Span Table

Model No.	Clear Span	Fasteners (Total)	Allowable Tension Load (133)	(160)
MSTC28	18	12-16d sinker	920	1105
	16	16-16d sinker	1225	1470
MSTC40	18	28-16d sinker	2145	2575
	16	36-16d sinker	2455	2945
MSTC52	18	44-16d sinker	3375	4050
	16	48-16d sinker	3680	4415
MSTC66	18	64-16d sinker	5035	5855
	16	68-16d sinker	5350	5855
MSTC78	18	80-16d sinker	5855	5855
	16	80-16d sinker	5855	5855
MST37	18	20-16d	1905	2285
	16	22-16d	2100	2515
MST48	18	32-16d	3135	3765
	16	34-16d	3330	4000
MST60	18	46-16d	4785	5740
	16	48-16d	4990	5800
MST72	18	56-16d	5800	5800
	16	56-16d	5800	5800
MSTI36	18	14-10dx1½	810	975
	16	16-10dx1½	930	1115
MSTI48	18	26-10dx1½	1545	1855
	16	28-10dx1½	1660	1990
MSTI60	18	38-10dx1½	2330	2800
	16	40-10dx1½	2455	2945
MSTI72	18	50-10dx1½	3065	3680
	16	52-10dx1½	3190	3830

Model No.	Ga	Dimensions W	Dimensions L	Fasteners (Total) Nails	Bolts Qty	Bolts Dia	Allowable Tension Loads Nails Floor (100)	Nails (133)	Nails (160)	Bolts[5] Floor (100)	Bolts[5] (133)	Bolts[5] (160)
MST27	12	2⅛	27	30-16d	4	½	2070	2760	2790	1295	1725	2070
MST37		2⅛	37½	42-16d	6	½	2860	3815	3815	1825	2435	2920
MST48		2⅛	48	46-16d	8	½	3345	4460	4460	2225	2970	3560
MST60	10	2⅛	60	56-16d	10	½	4350	5800	5800	2670	3565	4275
MST72		2⅛	72	56-16d	10	½	4350	5800	5800	2670	3565	4275
HST2	7	2½	21¼	—	6	⅝	—	—	—	3130	4175	5005
HST5		5	21¼	—	12	⅝	—	—	—	6385	8510	10210
HST3	3	3	25½	—	6	¾	—	—	—	4645	6195	7435
HST6		6	25½	—	12	¾	—	—	—	9350	12465	14955

1. Loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed. Floor loads may not be increased for other load durations.
2. 10dx1½" nails may be substituted where 16d sinkers are specified at 0.80 of the table loads.
3. 10d commons may be substituted where 16d sinkers are specified at 100% of table loads.
4. 16d sinkers (9 gauge x 3¼") or 10d commons may be substituted where 16d commons are specified at 0.84 of the table loads.
5. Allowable bolt loads are based on parallel-to-grain loading and these minimum member thicknesses: MST–2½"; HST2 and HST5–4"; HST3 and HST6–4½".
6. PS strap design loads must be determined by the building designer for each installation. Bolts are installed both perpendicular and parallel-to-grain.

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RPS/ST/FH/MST/MSTA COILED STRAPS

The MSTC series provides nail slots for easy installation and coined edges slots for a lower g.
RPS meets U ntinuous utility straps which can be cut to length on the job site. plates when a lightweight (about 40 pounds) cartons.
Inst Galvanized. Some products available in Z-MAX; contact factory.
and **ALLATION**: • Use all specified fasteners. See General Notes.
m • Wood shrinkage after strap installation across horizontal wood members may cause strap to buckle outward.
• Refer to the applicable code for minimum nail penetration and minimum wood edge and end distances.
• The table shows the maximum allowable loads and the nails required to obtain them. Fewer nails may be used; reduce the allowable load by the code lateral load for each nail subtracted from each end.
• CMST only–Use every other triangle hole if the wood tends to split. Use round and triangle holes for comparable MST loads, providing wood does not tend to split.

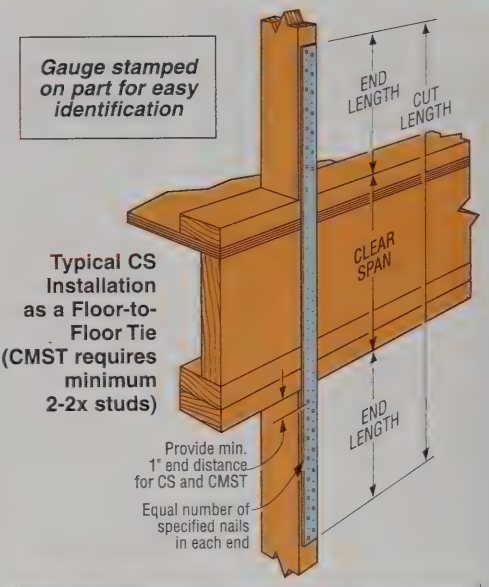
CODES: BOCA, ICBO, SBCCI NER-413; City of LA RR 25293 (CMST12 and CMST14).

Model No.	Total L (Length of Row)	End L	Ga	Cut Length	Fasteners (Total)	Allowable Tension Loads (100)[1]	Allowable Tension Loads (133/160)[2]	Nail Spacing o.c. (In a Row)
CMST12	40′	45″	12	clear span + 90″	100-16d	7230	9640	1¾″
		105″		clear span + 210″	118-10d	7230	9640	3½″
CMST14	52½′	34″	14	clear span + 68″	74-16d	5095	6795	1¾″
		78″		clear span + 156″	88-10d	5095	6795	3½″
CMSTC16	54′	25″	16	clear span + 50″	64-16d sinkers	3520	4690	1½″
		49″		clear span + 98″	64-16d sinkers	3520	4690	3″
CS16 CS16-R	150′ 25′	14″	16	clear span + 30″	28-8d	1235	1650	2⅜″
		11″		clear span + 24″	22-10d	1235	1650	
CS18S CS18 CS18-R	100′ 200′ 25′	11″ 9″ 9″	18	clear span + 24″ clear span + 20″ clear span + 20″	22-8d 18-10d 18-10d	950	1270	
CS20 CS20-R	250′ 25′	9″	20	clear span + 20″	18-8d	750	1005	
		7″		clear span + 16″	14-10d	750	1005	
CS22 CS22-R	300′ 25′	7″	22	clear span + 16″	14-8d	620	825	
		5½″		clear span + 13″	12-10d	620	825	

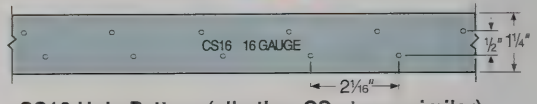
1. Allowable loads 100% value is the maximum steel capacity and may not be increased for other load durations unless otherwise indicated.
2. 133% and 160% value may be used for earthquake or wind loading.

NEW

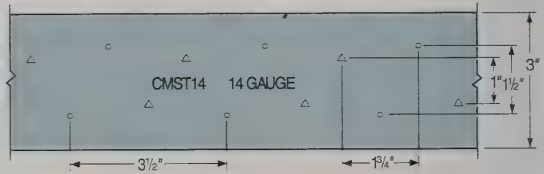
Gauge stamped on part for easy identification



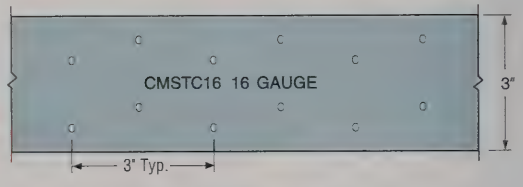
Typical CS Installation as a Floor-to-Floor Tie (CMST requires minimum 2-2x studs)



CS16 Hole Pattern (all other CS straps similar)



CMST14 Hole Pattern (CMST12 similar)



CMSTC16 Hole Pattern

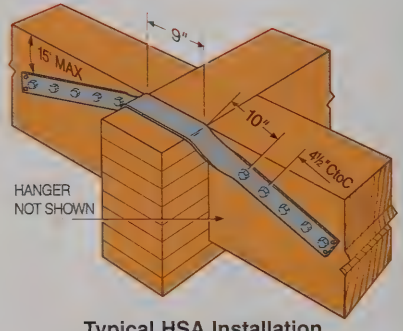
NEW

SA/HSA STRAP CONNECTORS

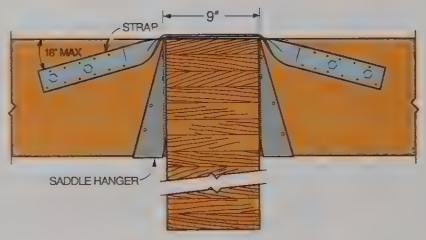
A high value seismic tie for horizontal ties across intervening members.
FINISH: SA36–galvanized; all others–Simpson gray paint
INSTALLATION: • Use all specified fasteners. See General Notes.
• May not be suitable for floor diaphragms which protrude above beams.
CODES: BOCA, ICBO, SBCCI NER-413; City of L.A. RR 25119.

Model No.	Strap Section	L	Total Fasteners Nails	Bolts Qty	Bolts Dia	Avg Ult	Allowable Horizontal Loads Nails (133 & 160)	Bolts (133)	Bolts (160)
SA36	12 ga x 2⅛16	36	22-16d	4	½	6767	1900	1605	1900
HSA32	3 ga x 3	32	—	2	¾	13600	—	1910	2290
HSA41	3 ga x 3	41	—	4	¾	17600	—	3770	4520
HSA50	3 ga x 3	50	—	6	¾	21600	—	5470	6400
HSA59	3 ga x 3	59	—	8	¾	30100	—	6940	8330
HSA68	3 ga x 3½	68	—	10	¾	34200	—	8350	10020

1. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.
2. Allowable loads assume a restrained member of 3½" min. thickness with bolts in single shear.
3. Bolt and nail values may not be combined.
4. Only SA36 can be field-bent for other intermediate beam widths.



Typical HSA Installation



Typical SA Installation with Saddle Hanger

Straps & Ties

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FTA/LFTA FLOOR TIE ANCHORS

Designed for use as a floor-to-floor tension tie, one FTA replaces two comparably sized HDs and the threaded rod.

The LFTA Light Floor Tie Anchor is for nailed installations.

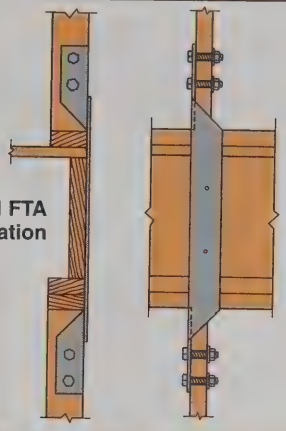
MATERIAL: See table

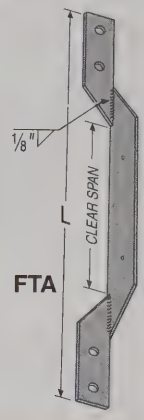
FINISH: LFTA–galvanized; FTA–Simpson gray paint

INSTALLATION: • Use all specified fasteners. See General Notes.
- Washers required on side opposite FTA for full loads.
- Nail holes between floors allow preattachment to the joist during installation; these nails are not required.

OPTIONS: • FTA may be hot-dip galvanized; specify HDG.
- **The standard model's clear span of 17" will accommodate up to a 12" joist. The clear span of the FTA may be increased with a corresponding increase in overall length.**

CODES: BOCA, ICBO, SBCCI NER-422; ICBO 1211; City of L.A. RR 22086 and RR 25064.







Model No.	Ga	Dimensions			Fasteners (Total)		Avg Ult	Allowable Uplift Loads[1] (133)						Allowable Uplift Loads[1] (160)					
		Max Width	Clear Span	L	Qty	Dia		Length Of Bolt in Wood Member					LFTA[2]	Length Of Bolt in Wood Member					LFTA[2]
								1½	2	2½	3	3½		1½	2	2½	3	3½	
LFTA	16	2¼	17	38⅜	16-10d	—	4200	—	—	—	—	—	1205	—	—	—	—	—	1400
FTA2	10	3	17	37½	4	⅝	11600	1575	2095	2600	2820	2820	—	1890	2510	3120	3385	3385	—
FTA5	10	3½	17	45½	4	¾	14600	1865	2500	3125	3725	4050	—	2240	3000	3750	4400	4400	—
FTA7	3	3½	17	56	6	⅞	25600	3095	4185	5175	6360	7395	—	3715	5020	6210	7600	7600	—

1. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.
2. Reduce the allowable load for the LFTA according to the code when nails penetrate wood less than 1¾".

TS TWIST STRAPS

Twist straps provide a tension connection between two wood members. An equal number of right and left hand units are supplied in each carton.

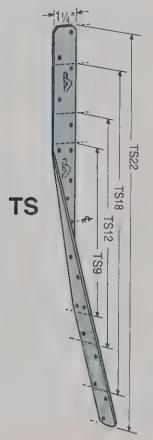
MATERIAL: 16 gauge

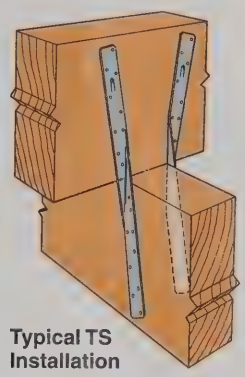
FINISH: Galvanized. Some products available in stainless steel and Z-MAX; see Corrosion-Resistance, page 5.

INSTALLATION: • Use all specified fasteners. See General Notes.
- TS should be installed in pairs to reduce eccentricity.

Model No.	L	Fasteners (Total)	Allowable Loads (133 & 160)
TS9	9	8-16d	530
TS12	11⅝	10-16d	665
TS18	17¾	14-16d	930
TS22	21⅝	18-16d	1215

1. Install half of the fasteners on each end of the strap to achieve full loads.
2. Loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed.
3. 16d sinkers (9 ga x 3¼") may be substituted for the specified 16d commons at 0.84 of the table loads.

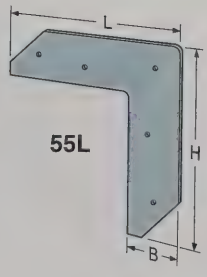


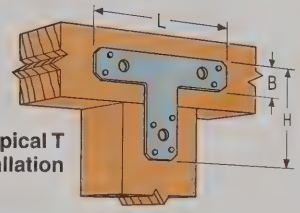


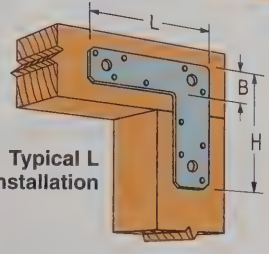
T AND L STRAP TIES

Model No.	Material	Dimensions			Fasteners		
		L	H	B	Nails	Bolts	
						Qty	Dia
55L	16 ga galv	4¾	4¾	1¼	5-10d	—	—
66L	14 ga galv	6	6	1½	10-16d	3	⅜
88L	14 ga galv	8	8	2	12-16d	3	½
1212L	14 ga galv	12	12	2	14-16d	3	½
1212HL	7 ga ptd	12	12	2½	—	4	⅝
1616HL	7 ga ptd	16	16	2½	—	4	⅝
66T	14 ga galv	6	5	1½	8-16d	3	⅜
128T	14 ga galv	12	8	2	12-16d	3	½
1212T	14 ga galv	12	12	2	12-16d	3	½
1212HT	7 ga ptd	12	12	2½	—	6	⅝
1616HT	7 ga ptd	16	16	2½	—	6	⅝

1. Painted (ptd), Galvanized (galv).







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LTP4/A34/A35 FRAMING ANCHORS

The LTP4 Lateral Tie Plate transfers shear forces for top plate-to-rim joist or blocking connections. Nail holes are spaced to prevent wood splitting for single and double top plate applications. May be installed over plywood sheathing.

The A35 anchor's exclusive bending slot allows instant, accurate field bends for all two- and three-way ties. Balanced, completely reversible design permits the A35 to secure a great variety of connections.

MATERIAL: LTP4–20 gauge; all others–18 gauge

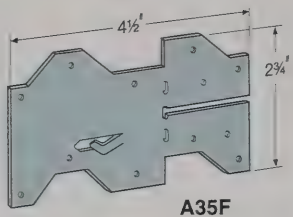
FINISH: Galvanized. Some products available in stainless steel or Z-MAX; see Corrosion-Resistance, page 5.

INSTALLATION: • Use all specified fasteners. See General Notes.
- A34–Use 8-8dx1½" nails.
- A35 and A35F–Use 12-8dx1½" nails.
- A35–Use 9-8dx1½" nails for connection types A_1, E, C_1.
- LTP4–Use 12-8dx1½" nails.

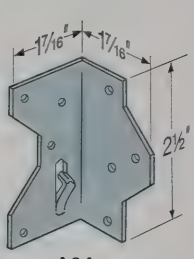
CODES: BOCA, ICBO, SBCCI NER-413 and NER-432; Dade Co. FL 97-0107.05; City of L.A. RR 25119, RR 25293.

Model No.	Type of Connection	Direction of Load	Doug-Fir-Larch/ So. Pine Allowable Loads		Spruce-Pine-Fir Allowable Loads	
			Floor (100)	Roof (125)	Floor (100)	Roof (125)
A34	1	F_1	345	365	295	315
		F_2	280	280	240	240
A35	2	A_1, E	260	320	225	275
		C_1	170	170	145	145
	3	A_2	260	320	225	275
		C_2	260	315	225	270
		D	150	150	130	130
	4	F_1	450	450	385	385
		F_2	515	645	445	555
A35F	5	G	500	500	430	430
		J	265	265	230	230
		H	440	440	380	380
LTP4	5	G	515	645	445	555
		J	515	645	445	555
		H	515	645	445	555

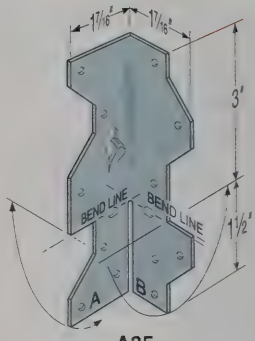
1. Allowable loads are for one anchor. When anchors are installed on each side of the joist, the minimum joist thickness is 3".
2. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for other load durations according to the code, provided they do not exceed those in the roof column.
3. Some illustrations show connections that could cause cross-grain tension or bending of the wood during loading if not reinforced sufficiently. In this case, mechanical reinforcement should be considered.
4. G direction only: A35F and LTP4 can be installed over ⅜" plywood with 8dx1½" nails and achieve .72 of the listed load, or over ½" and achieve .64 of the listed load. 8d commons will achieve 100% load.
5. A35 installed over 1" foamboard has a load of 170 lbs (100) and 215 lbs (125) in an F_1 direction of load.



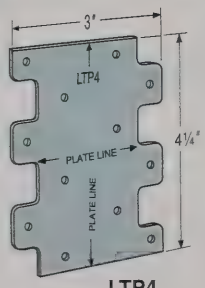
A35F



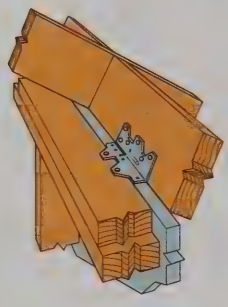
A34

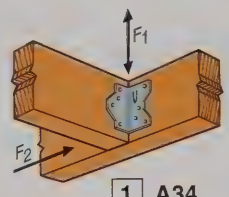


A35

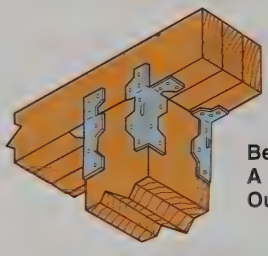


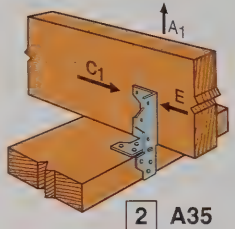
LTP4


A35 Installed over 1" foamboard See note 5.

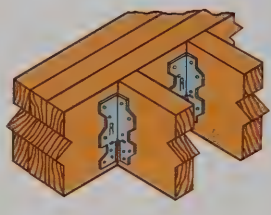


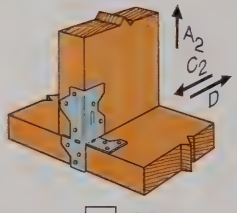
1 A34


Beam to Posts A and B Legs Outside

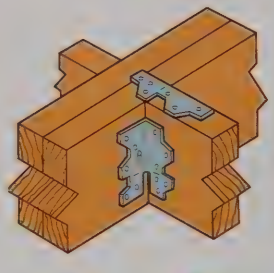


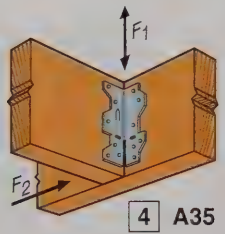
2 A35


Ceiling Joists to Beam

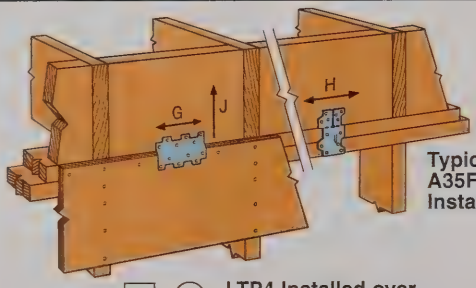


3 A35


Joists to Beams

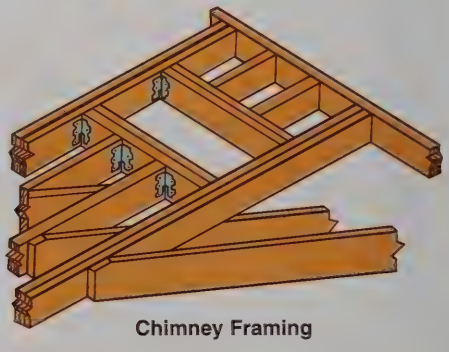


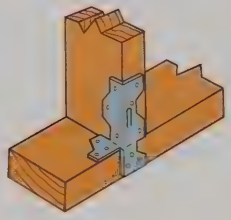
4 A35

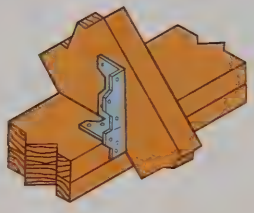


Typical A35F Installation

5 (8) LTP4 Installed over Plywood Sheathing


Chimney Framing


Studs to Plate with B Leg Outside


Joists to Plate with A Leg Inside

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Z2 clips secure 2x4 flat blocking between joists or trusses to support sheathing.

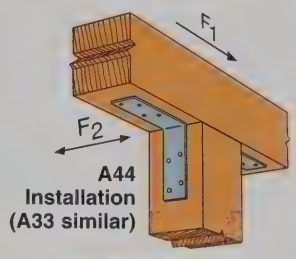
MATERIAL: Z clips–see table. A21 and A23–18 ga.; all other A angles–12 ga.

FINISH: Galvanized

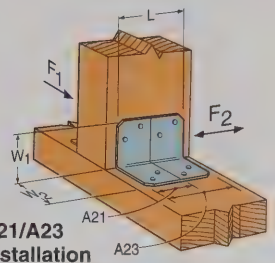
INSTALLATION: • Use all specified fasteners. See General Notes.
• Z clips do not provide lateral stability. Do not walk on stiffeners or apply load until diaphragm is installed and nailed to stiffeners.

CODES: BOCA, ICBO, SBCCI NER-421 (except A33, A44); City of L.A. RR 25076 (except A33, A44); Dade Co. FL 99-0623.04.

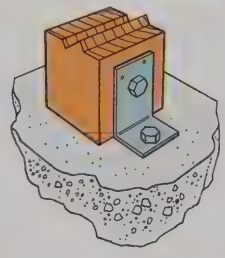
Model No.	Dimensions			Fasteners				Avg Ult F_2	Allowable Loads[1]			
				Base		Post			(133)		(160)	
	W_1	W_2	L	Bolts	Nails	Bolts	Nails		F_1	F_2	F_1	F_2
A21	2	1½	1⅜	—	2-10dx1½	—	2-10dx1½	540	245	175	290	175
A23	2	1½	2¾	—	4-10dx1½	—	4-10dx1½	1767	485	485	585	565
A33	3	3	1½	—	4-10d	—	4-10d	2635	625	330	750	330
A44	4⅜6	4⅜	1½	—	4-10d	—	4-10d	2490	625	295	750	295
A66	5⅞	5⅞	1½	2-⅜	—	2-⅜	—	N/A	N/A	N/A	N/A	N/A
A88	8	8	2	3-⅜	—	3-⅜	—	N/A	N/A	N/A	N/A	N/A
A24	3⅞	2	2½	1-½	—	1-½	2-10d	N/A	N/A	N/A	N/A	N/A
A311	11	3⅝	2	1-½	—	1-½	4-10d	N/A	N/A	N/A	N/A	N/A

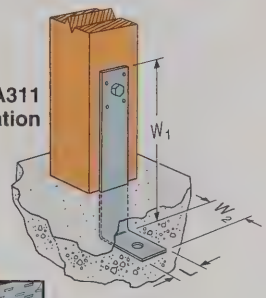


A44 Installation (A33 similar)



A21/A23 Installation

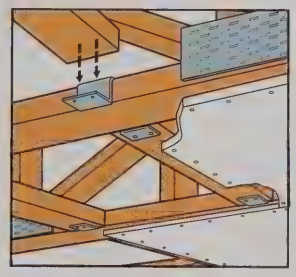

A24 Installation

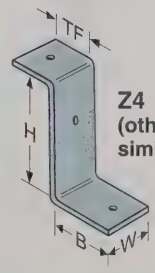


A311 Installation

Model No.	Ga	Dimensions				Fasteners[1] (Total)	Avg Ult	Allowable[2] Download (125)
		W	H	B	TF			
Z2	20	2⅝6	1½	1⅜	1⅜	4-10dx1½	1507	465
Z4	12	1½	3½	2⅛	1¾	2-16d	1450	465
Z6	12	1½	5⅜	2	1⅜	2-16d	1517	485
Z28	28	2⅝6	1½	1⅜	1⅜	10dx1½[1]	—	—
Z38	28	2⅝6	2½	1⅜	1⅜	10dx1½[1]	—	—
Z44	12	2½	3½	2	1⅜	4-16d	2800	865

1. Z28 and Z38 do not have nail holes. Fastener quantities are as required.
2. Allowable loads have been increased 25% for roof loading (Z clips), 33% and 60% for earthquake or wind loading (A angles); no further increase allowed; reduce for other load durations according to the code.
3. Z4 and Z6 loads apply with a nail into the top and a nail into the seat.


Typical Z2 Installation



Z4 (others similar)

SP/SPH/RSP4 STUD PLATE TIES

The RSP4 is a reversible stud plate tie with locating tabs, which aid placement on double top plates or a single bottom plate.

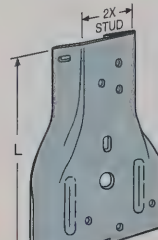
MATERIAL: SPH–18 gauge, all others–20 gauge

FINISH: Galvanized

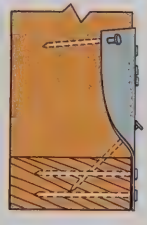
INSTALLATION: • Use all specified fasteners; see General Notes.
• SP–one of the 10d common stud nails is driven at a 45° angle through the stud into the plate.

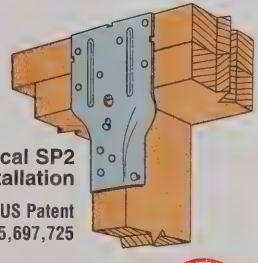
CODES: BOCA, ICBO, SBCCI NER-432, NER-443, NER-499; SBCCI 9603A; City of LA RR 25318 (RSP4); Dade Co. FL 99-0623.04.

Model No.	Dimensions		Fasteners		Avg Ult	Allowable Uplift Loads DF/SP	
	W	L	Stud[1]	Plate		(133)[2]	(160)[2]
SP1	3½	5⅛6	6-10d	4-10d	1950	585	585
SP2	3½	6⅝	6-10d	6-10d	3300	890	1065
NEW SP3	4½	6⅝	6-10d	6-10d	3467	890	1065
SP4	3⅜6	7⅛6	6-10dx1½	—	2917	735	885
NEW SP5	4½	5⅛6	6-10d	4-10d	1950	585	585
SP6	5⅜6	7¾	6-10dx1½	—	2917	735	885
SP8	7⅝6	8⅝6	6-10dx1½	—	2917	735	885
SPH4	3⅜6	8¾	10-10dx1½	—	3993	1240	1240
			12-10dx1½	—	4470	1360	1360
SPH6	5⅜6	9¼	10-10dx1½	—	3993	1240	1240
			12-10dx1½	—	4470	1360	1360
SPH8	7⅝6	8⅜	10-10dx1½	—	3993	1240	1240
			12-10dx1½	—	4470	1360	1360
RSP4 (1)	2⅛	4½	4-8dx1½	4-8dx1½	1032	315	315
RSP4 (2)	2⅛	4½	4-8dx1½	4-8dx1½	1445	450	450

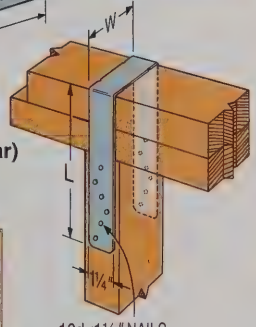


SP1


SP1 Nailing Profile

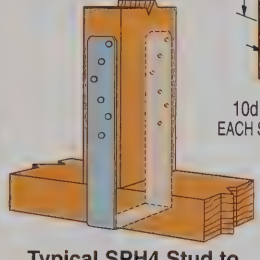

Typical SP2 Installation

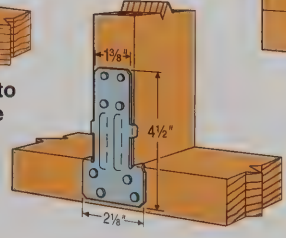
US Patent 5,697,725



Typical SPH Installation (SP4, 6, 8 similar)

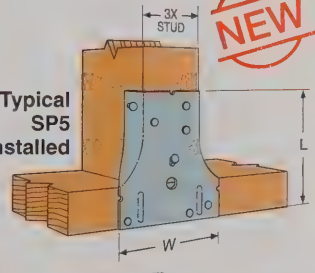
10d×1½" NAILS EACH SIDE OF STUD


Typical SPH4 Stud to Single Bottom Plate

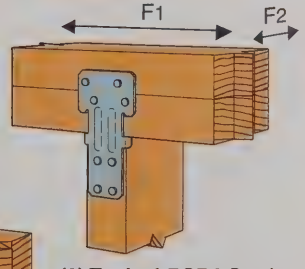


(1) Typical RSP4 Stud to Single Bottom Plate

NEW



Typical SP5 Installed



(2) Typical RSP4 Stud to Double Top Plate (see footnote 4)

1. SP1 and SP2: drive one stud nail at an angle through the stud into the plate to achieve the table load (see illustration).
2. Allowable loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed. Reduce by 33% and 60% for normal loading.
3. RSP4–see Installation details (1) and (2) for reference.
4. RSP4 F2 is 280 lbs (installation 1) and 305 lbs (installation 2). F1 load is 210 lbs for both installations.
5. Maximum load for SPH in Southern Yellow Pine is 1490 lbs.

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The H8 allows rafter to top plate and stud to sill plate installation.

The H9 is designed to retrofit roof truss/rafters for wood construction. The H9 hurricane tie provides high uplift and lateral capacity using Simpson wood fasteners.

The presloped 5/12 seat of the H16 provides for a tight fit and reduced deflection. The strap length provides for various truss height up to a maximum of 13½". Minimum heel height for H16 and H16S is 4".

The HGA10 attaches to gable trusses and provides good lateral wind resistance. The HS24 attaches the bottom chord of a truss or rafter at pitches from 0:12 to 4:12 to double 2x4 top plates. Double shear nailing allows for higher lateral resistance.

The H connector series provides wind and seismic ties for trusses and rafters. H10 and H10R optional positive angle nailing connects shear blocking to rafter—use 8d common nails. Slot allows field-bending up to 27° at 0.73 of the table uplift load; bend one time only.

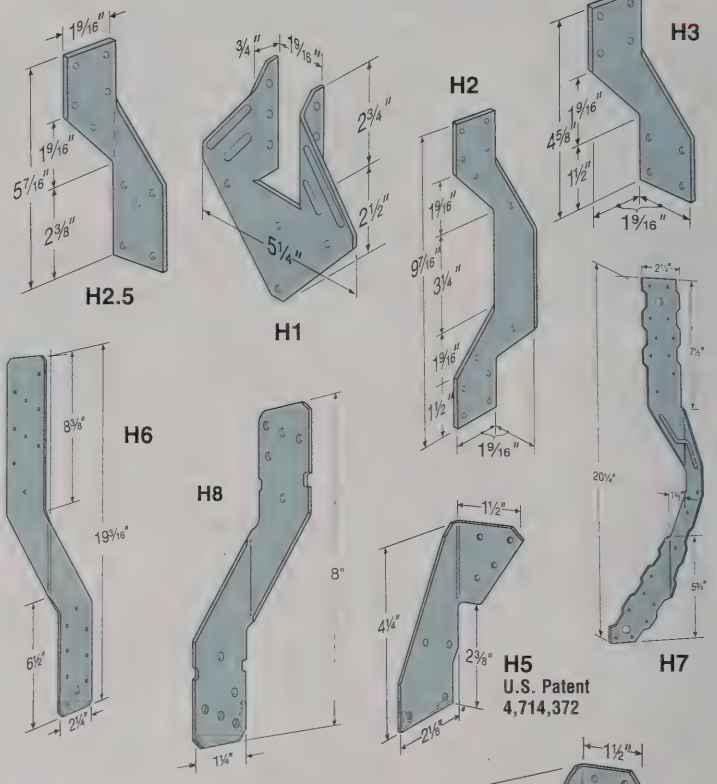
MATERIAL: See table

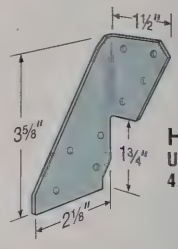
FINISH: Galvanized; H10-2, H11Z–Z-MAX. Other models available in stainless steel or Z-MAX; see Corrosion-Resistance, page 5.

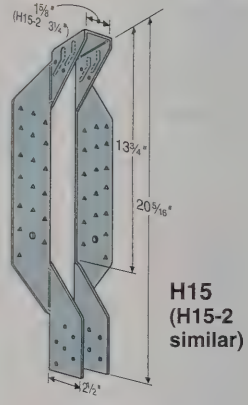
INSTALLATION: • Use all specified fasteners. See General Notes.

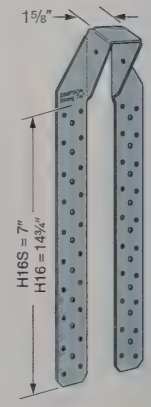
- The HGA10 can be installed into wood. Screws are provided.
- HS24 requires slant nailing only when bottom chord of truss or rafter has no slope.
- H1 can be installed with flanges facing outwards (reverse of drawing number 1). When installed inside a wall, a birdsmouth cut is required.
- H2.5, H3, H4, H5 and H6 ties are shipped in equal quantities of separate rights and lefts.
- Bend the H7 over the top of the truss. Install a minimum of four 8d nails into the truss, including two into the truss side.
- Hurricane Ties do not replace solid blocking.

CODES: BOCA, ICBO, SBCCI NER-422, NER-393, NER-432; NER-499; Dade Co, FL 97-0107.05; City of L.A. RR 24818.





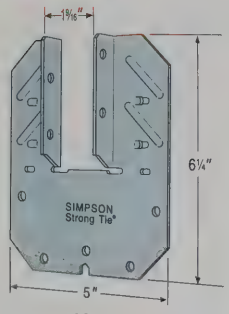




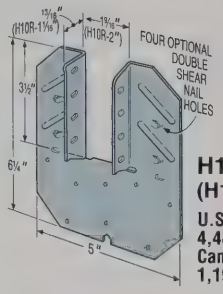
Model No.	Ga	Fasteners			Uplift Avg Ult	Doug-Fir Larch/So. Pine Allowable Loads[1,2]				Uplift Load with 8dx1½" Nails (133 & 160)	Spruce-Pine-Fir Allowable Loads[1,2]				Uplift Load with 8dx1½" Nails (133 & 160)
						Uplift		Lateral (133/160)			Uplift		Lateral (133/160)		
		To Rafters/ Truss	To Plates	To Studs		(133)	(160)	F_1	F_2		(133)	(160)	F_1	F_2	
HGA10	14	4-SDS¼x1½	4-SDS¼x3	—	1523	435	435	1165	940	—	375	375	870	815	—
HS24	18	8-8dx1½ & 2-8d slant	8-8d	—	2205	605[6]	605[6]	645[6]	1025[6]	—	520	520	555	880	—
H1	18	6-8dx1½	4-8d	—	1958	490	585	485	165	455	400	400	415	140	370
H2	18	5-8d	—	5-8d	1040	335	335	—	—	335	230	230	—	—	230
H2.5	18	5-8d	5-8d	—	1300	415	415	150	150	415	365	365	130	130	365
H3	18	4-8d	4-8d	—	1433	455	455	125	160	415	320	320	105	140	290
H4	20	4-8d	4-8d	—	1144	360	360	165	160	360	235	235	140	135	235
H5	18	4-8d	4-8d	—	1485	455	465	115	200	455	265	265	100	170	265
H6	16	—	8-8d	8-8d	3983	915	950	650	—	—	785	820	560	—	—
H7	16	4-8d	2-8d	8-8d	2991	930	985	400	—	—	800	845	345	—	—
H8	18	5-10dx1½	5-10dx1½	—	2422	620	745	—	—	—	530	565	—	—	—
H9	18	4-SDS¼x1½	5-SDS¼x1½	—	2812	875	875	680	125	—	755	755	680	125	—
H10	18	8-8dx1½	8-8dx1½	—	3135	905	990	585	525	—	780	850	505	450	—
H10R	18	8-8dx1½	8-8dx1½	—	3135	905	990	585	525	—	780	850	505	450	—
H10-2	18	6-10d	6-10d	—	2447	760	760	455	395	—	655	655	390	340	—
H11Z	18	6-16dx2½	6-16dx2½	—	5097	830	830	525	760	—	715	715	450	655	—
H15	16	4-10dx1½	4-10dx1½	12-10dx1½	6070	1300	1300	480	—	—	1120	1120	410	—	—
H15-2	16	4-10dx1½	4-10dx1½	12-10dx1½	6070	1300	1300	480	—	—	1120	1120	410	—	—
H16	18	2-10dx1½	10-10dx1½	—	—	1600	1600	—	—	—	1300	1300	—	—	—
H16S	18	2-10dx1½	10-10dx1½	—	—	1600	1600	—	—	—	1300	1300	—	—	—

1. Loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.
2. Allowable loads are for one anchor. A minimum rafter thickness of 2½" must be used when framing anchors are installed on each side of the joist and on the same side of the plate.
3. Allowable uplift load for stud to bottom plate installation is 360 lbs (H4); 400 lbs (H2.5); 310 lbs (H8).
4. H8–install 4-8d nails into the bottom plate and 5-8d nails into the stud.
5. When cross-grain bending or cross-grain tension cannot be avoided, mechanical reinforcement to resist such forces should be considered.
6. HS24 allowable loads without slant nailing are 625 lbs (uplift), 590 lbs (F_1), 640 lbs (F_2).
7. Hurricane Ties are shown installed on the outside of the wall for clarity. Installation on the inside of the wall is acceptable. For a Continuous Load Path, connections must be on same side of the wall.

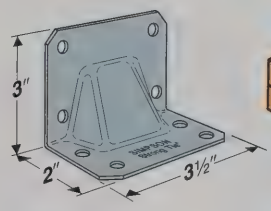
Catalog C-2001 © Copyright 2000 SIMPSON STRONG-TIE CO., INC.



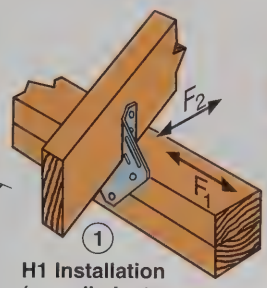
H9



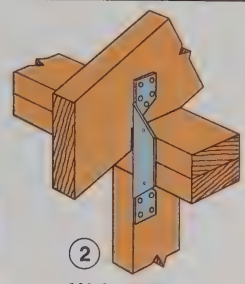
H10
(H10R similar)
U.S. Patents 4,480,941; Canada Patent 1,193,418



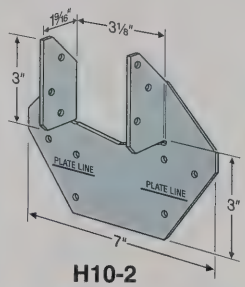
HGA10



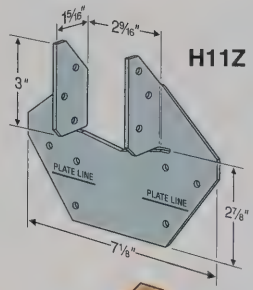
① H1 Installation (can eliminate costly rafter notching)



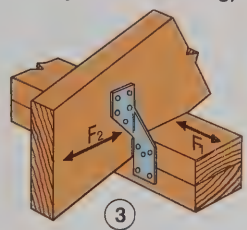
② H2 Installation



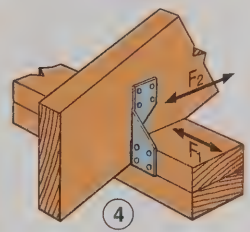
H10-2



H11Z

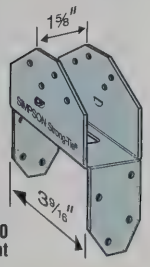


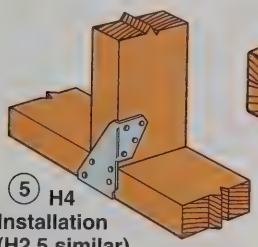
③ H2.5 Installation (Nails into both top plates)



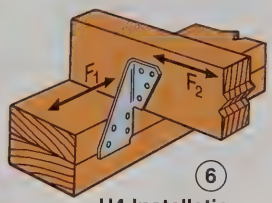
④ H3 Installation

HS24
U.S. Patents 4,480,941 and 5,603,580 Canada Patent 1,193,418

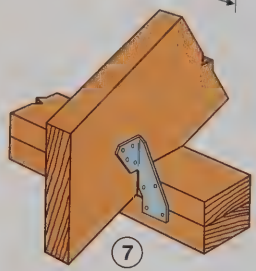




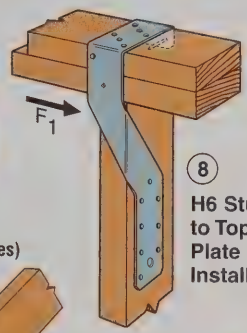
⑤ H4 Installation (H2.5 similar) (see footnote 3)



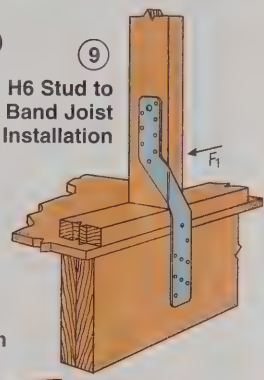
⑥ H4 Installation (Nails into upper top plate)



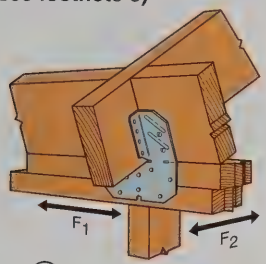
⑦ H5 Installation (Nails into both top plates)



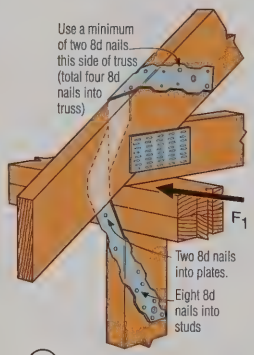
⑧ H6 Stud to Top Plate Installation



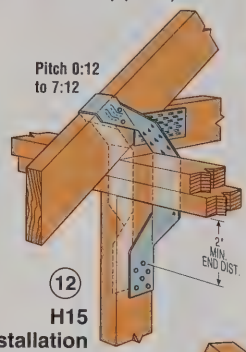
⑨ H6 Stud to Band Joist Installation



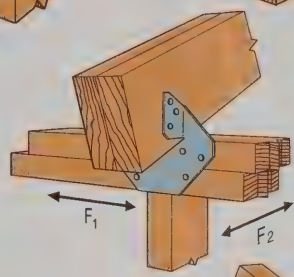
⑩ H10 Installation



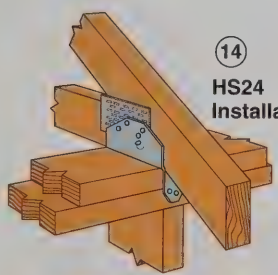
⑪ H7 Installation



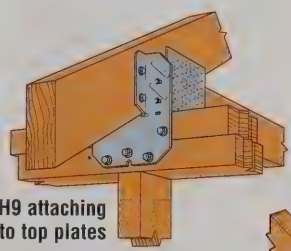
⑫ H15 Installation



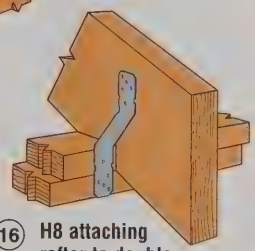
⑬ H10-2 Installation (H11Z similar)



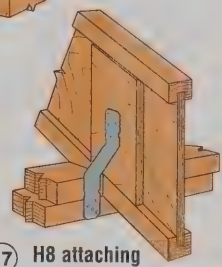
⑭ HS24 Installation



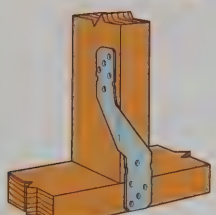
⑮ H9 attaching truss to top plates



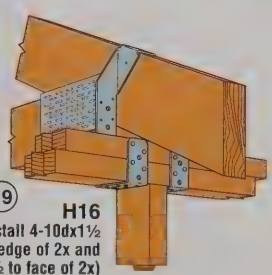
⑯ H8 attaching rafter to double top plates



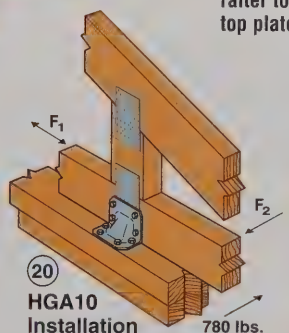
⑰ H8 attaching I-joist to double top plates



⑱ H8 attaching stud to sill



⑲ H16 (Install 4-10dx1½ to edge of 2x and 6-10dx1½ to face of 2x)

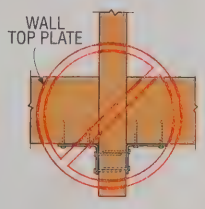


⑳ HGA10 Installation to Double Top Plates

Hurricane Tie Installations to achieve Twice the Load (Top View)



Install diagonally across from each other for minimum 1½" truss.



Nailing into both sides of a single ply 2x truss may cause the wood to split.

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LTS/MTS/HTS TWIST STRAPS

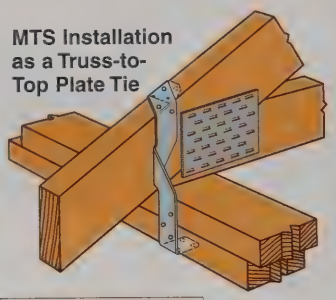
Twist straps provide a tension connection between two wood members. They resist uplift at the heel of a truss economically. The 3" bend section eliminates interference at the transition points between wood members.

MATERIAL: LTS–18 gauge; MTS–16 gauge; HTS–14 gauge

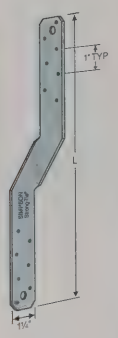
FINISH: Galvanized. Some products available in stainless steel and Z-MAX; see Corrosion-Resistance, page 5.

INSTALLATION: Use all specified fasteners. See General Notes.

CODES: BOCA, ICBO, SBCCI NER-413 (except HTS); Dade Co. FL 99-0713.05 (MTS).



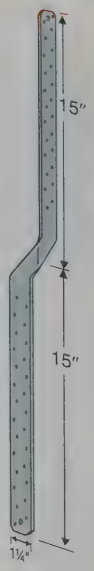
MTS Installation as a Truss-to-Top Plate Tie



LTS12 (other sizes and MTS similar)



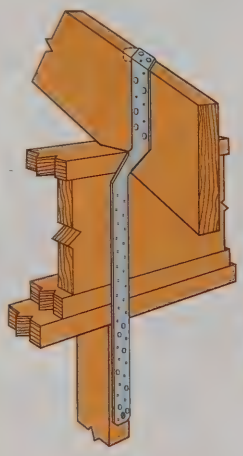
MTS30



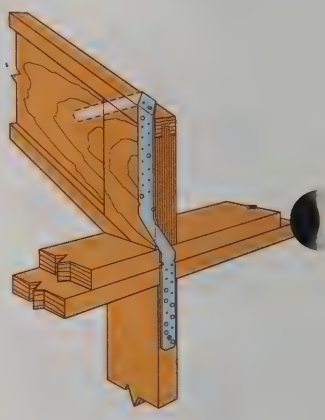
MTS30C

Model No.	L	Fasteners[2]		Avg Ult	Doug-Fir-Larch/So Pine Allowable Uplift Loads[3]			Spruce-Pine-Fir Allowable Uplift Loads		
		10d	10dx1½"		10d	10dx1½"		10d	10dx1½"	
					(133/160)	(133)	(160)	(133/160)	(133)	(160)
LTS12	12	12-10d	12-10dx1½	2383	775	720	720	665	620	620
LTS16	16	12-10d	12-10dx1½	2383	775	720	720	665	620	620
LTS18	18	12-10d	12-10dx1½	2383	775	720	720	665	620	620
LTS20	20	12-10d	12-10dx1½	2383	775	720	720	665	620	620
MTS12	12	14-10d	14-10dx1½	3116	1000	840	1000	860	730	860
MTS16	16	14-10d	14-10dx1½	3116	1000	840	1000	860	730	860
MTS18	18	14-10d	14-10dx1½	3116	1000	840	1000	860	730	860
MTS20	20	14-10d	14-10dx1½	3116	1000	840	1000	860	730	860
MTS30	30	14-10d	—	2667	835	—	—	720	—	—
MTS24C	24	14-10d	14-10dx1½	3116	1000	840	1000	860	730	860
MTS28C	28	14-10d	14-10dx1½	3116	1000	840	1000	860	730	860
MTS30C	30	14-10d	14-10dx1½	3116	1000	840	1000	860	730	860
HTS16	16	16-10d	16-10dx1½	4430	1260	1005	1150	1085	865	990
HTS20	20	20-10d	24-10dx1½	4430	1450	1450	1450	1245	1245	1245
HTS24	24	20-10d	24-10dx1½	4430	1450	1450	1450	1245	1245	1245
HTS28	28	20-10d	24-10dx1½	4430	1450	1450	1450	1245	1245	1245
HTS30	30	20-10d	24-10dx1½	4430	1450	1450	1450	1245	1245	1245
HTS30C	30	20-10d	24-10dx1½	4430	1450	1450	1450	1245	1245	1245

1. LTS12 thru LTS20, MTS16 through MTS30, HTS24 through HTS30C (except HTS30) have additional nail holes.
2. Install half of the fasteners on each end of strap to achieve full loads.
3. Loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed.
4. **HTS30C and MTS24C, 28C and 30C have the twist in the center of the strap length.**
5. Twist straps do not have to be wrapped over the truss to achieve the load.



Typical MTS30 Installation



MTS30 Installation with I-joist Rafter

HH HEADER HANGERS

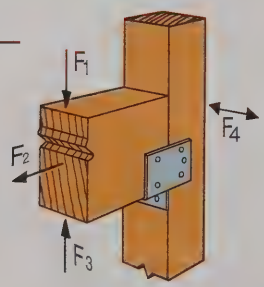
For fast, accurate installation of door and window headers and other cross member details. HH header hangers can speed up the job, strengthen the frame, and eliminate the need for trimmers.

MATERIAL: 16 gauge.

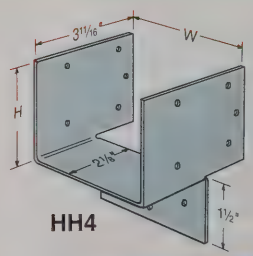
FINISH: Galvanized

INSTALLATION: Use all specified fasteners. See General Notes.

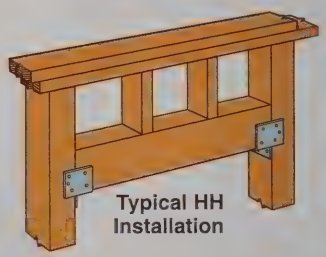
CODES: BOCA, ICBO, SBCCI NER-413; Dade County, FL 97-0107.05; City of L.A. RR 25119.



HH Load Directions



HH4



Typical HH Installation

Model No.	W	H	Fasteners		Down Avg Ult	Allowable Loads			
			Stud	Header		(100)	(133)		
						F_1	F_2	F_3	F_4
HH4	3½	2 13/16	9-16d	4-16d	6697	1195	710	710	1085
HH6	5½	5⅛	12-16d	6-16d	6697	1595	1065	1065	1085

1. F_1 Loads may be increased up to 25% for short-term loading in accordance with the code.
2. A 2½" minimum lumber thickness is required to achieve the full load.

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LGT2/MGT/HGT HEAVY GIRDER TIEDOWNS

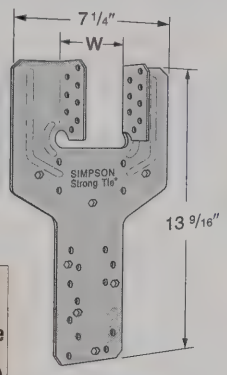
This series provides high uplift resistance for wood frame and concrete block construction. HGT can be installed on trusses and beam with top chord slopes from 3:12 to 8:12. Available in 2-ply, 3-ply and 4-ply widths.

MATERIAL: HGT—7 gauge, LGT—14 gauge, MGT—12 gauge.

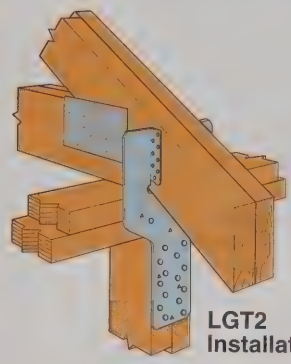
FINISH: HGT—Simpson gray paint; LGT, MGT—Galvanized

INSTALLATION: When the HGT-3 is used with a 2-ply girder or beam, shimming is required. Fasten to act as one unit.

CODE: BOCA, ICBO, SBCCI NER-432 (HGT-2 and HGT-3).



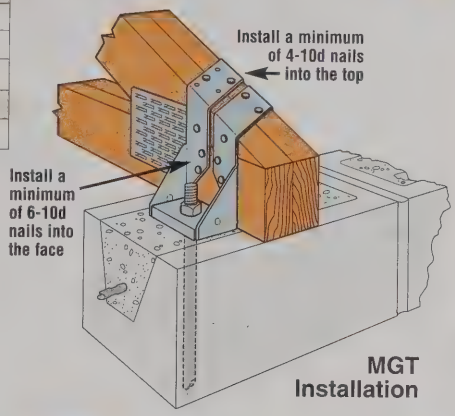
LGT2



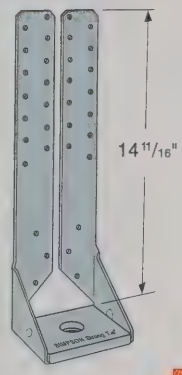
LGT2 Installation

Model No.	W	O.C. Dim Between Anchors	Fasteners			Avg Ult	Doug-Fir-Larch/ So. Pine Allowable Loads (133/160)	Spruce-Pine-Fir Allowable Loads (133/160)
			Anchor Dia.		Girder			
			Conc.	Wood				
LGT2	3⅛	—	—	14-16d sinker	14-16d sinker	6342	2050	1785
MGT	3¾	—	⅝	—	22-10d	—	4200	3655
HGT-2	3⅝	5¾	¾	⅝	8-10d	28333	8665	6485
HGT-3	4 15/16	7⅜	¾	⅝	8-10d	29833	9685	9035
HGT-4	6 9/16	9	¾	⅝	16-10d	29137	9685	9685

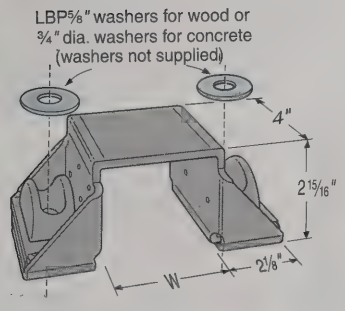
1. Attached members must be designed to resist applied loads.
2. HGT allowable loads in 8" wide tie-beam using Simpson Epoxy-Tie: with 2500 psi tie-beam = 6,710 lbs (HGT-2) and 8,750 lbs (HGT-3); with 3000 psi tie-beam = 7,395 lbs (HGT-2) and 9,650 lbs (HGT-3). Load values have been reduced to reflect actual o.c. spacing of HGT anchors. Minimum embedment depth for ¾" dia anchor is 5".
3. HGT additional anchorage products to be designed by others.
4. Allowable loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed.



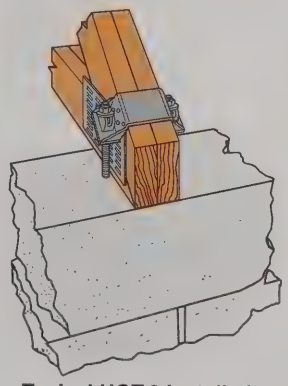
MGT Installation



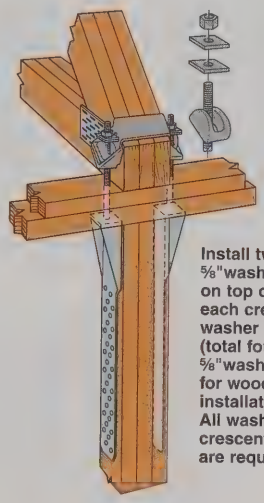
MGT



HGT-2
(HGT-3, HGT-4 similar)

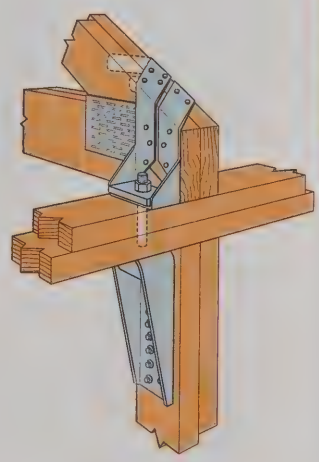


Typical HGT-2 Installation into Concrete (¾" diameter standard washers required for concrete)



Install two ⅝"washers on top of each crescent washer (total four ⅝"washers) for wood installation. All washers and crescent washer are required.

Typical HGT-3 Installation with HTT22s



Typical MGT Installation with PHD5

Straps & Ties

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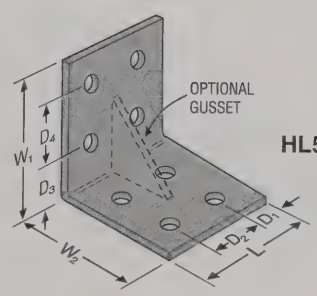
HL HEAVY ANGLES AND GUSSETS

Versatile angle gussets and heavy angles promote standardization and construction economy, and are compatible with Strong-Tie structural hardware.

FINISH: HL33, 35, 53, 55 are galvanized; others Simpson gray paint.

OPTIONS: Gussets may be added to HL models when L ≥ 5" (specify G after model number, as in HL46G).

Model No.	Ga	Dimensions						Bolts (Total)	
		W_1 & W_2	L	D_1	D_2	D_3	D_4	Qty	Dia
HL33	7	3¼	2½	1¼	—	2	—	2	⅝
HL35	7	3¼	5	1¼	2½	2	—	4	⅝
HL53	7	5¾	2½	1¼	—	2	2½	4	⅝
HL55	7	5¾	5	1¼	2½	2	2½	8	⅝
HL43	3	4¼	3	1½	—	2¾	—	2	¾
HL46	3	4¼	6	1½	3	2¾	—	4	¾
HL73	3	7¼	3	1½	—	2¾	3	4	¾
HL76	3	7¼	6	1½	3	2¾	3	8	¾

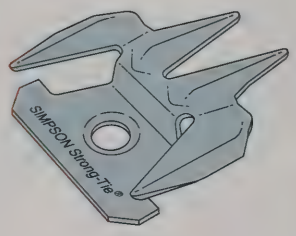


HL55

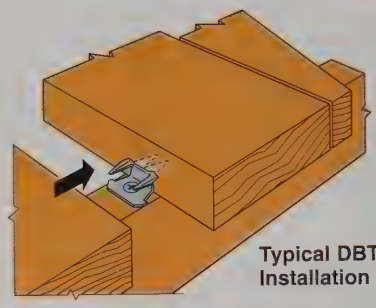
DBTC CONCEALED DECK-TIE®

MATERIAL: 18 gauge
FINISH: Z-MAX; also available in Stainless steel

- Works for both 5/4" and 2x decking material.
- Works with composite of wood and plastic, not for solid plastic decking.
- Hidden from above and below the deck.
- Attaches to joist with #7x1¼" bugle head wood screw.
- Hole is counter sunk to reduce the reveal from the screw.
- Position quickly and accurately with installation tool included in the kit.



DBTC


Typical DBTC Installation

DBT/DJT/DRT/DPT DECK-TIE® CONNECTORS

SAFE DECK BUILDING PROCEDURES

Always comply with building codes, which may regulate distances, foundation materials, spacing, loads, etc. Consult a professional for a high-level or cantilevered deck, or one over unstable soil or water. Minimize wood splitting by flattening nail points or drilling pilot holes. Follow the manufacturer's guidelines for tools and materials.

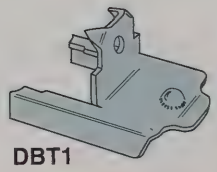
MATERIAL: DBT1, DRT8–18 gauge; DPT5, 6, 7, DJT14–14 gauge
FINISH: Z-MAX; see Corrosion Resistance, page 5.
INSTALLATION: • Use specified fasteners. See General Notes.

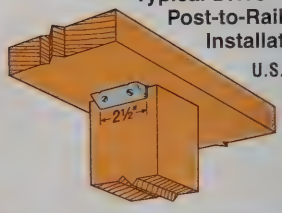
- **DBT1** Deck Board Tie: Position the DBT1 with the locator prongs and install with a single 10d or 10dx1½" nail. Using dry lumber will minimize deck board movement after installation. Works with 2x deck boards. Predrilling recommended for 5/4 deck boards. To check number of DBT1 multiply numer of I-joists by number of deck boards.
- **DPT5, 6, 7** Deck Post Ties: Testing shows similar strength and deflection limits when compared with 4x4 posts attached to 2x8 rim joists with two ½" machine bolts placed 3½" apart.
- **DPT6**: Use 18–16d commons, 8 angled and 10 straight. Recommended: attach to deck first, then to 4x4 post.
- **DPT5 and DPT7**: Install in pairs at a recommended minimum center-to-center spacing of 5". Use two ⅜" through bolts and 10dx1½" nails for DPT5 (5–10d commons for DPT7) per tie.
- Recommended: install on post and then attach to deck. Post size: DPT5, 2x4; DPT7, 4x4. Check with local building officials for minimum post spacing.
- **DJT14** Deck Joist Tie: Recommended: install on post first. Minimum 2x4 joist, 4x4 post.
- **DRT8** Deck Railing Tie: Eliminates nailing into the top of hand railing. Attaches 2x4 and 2x6 hand railing to posts. Use four #8x1¼" flathead wood screws. Drive prongs into post, then two screws into the post and two screws into the railing.

CODE: BOCA, ICBO, SBCCI NER-443.

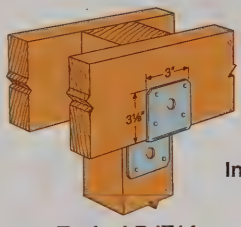
Model No.	Fasteners			Avg Ult	Allowable Loads			
	Nails	Bolts			Nails		Bolts	
		Qty	Dia		Floor (100)	Roof (125)	Floor (100)	Roof (125)
DJT14	8-16d	2	⅝ MB	4550	1100	1375	1400	1400

1. Loads are for one DJT.
2. Roof loads are 125% of floor loads. Floor loads may be adjusted for other load durations according to the code, provided they do not exceed the roof loads.

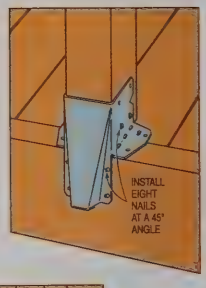

DBT1
U.S. Patent 5,027,573
Canada Patent 2,015,733



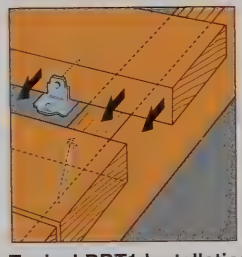
Typical DRT8 Post-to-Railing Installation
U.S. Patent 5,160,211

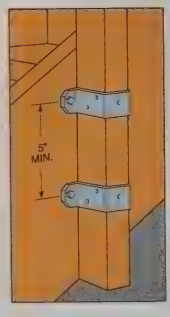


Typical DJT14 Installation



Typical DPT6 Installation
U.S. Patent 5,150,982


Typical DBT1 Installation. Connectors slide under anchored deck board.



Typical DPT5 Stairway Installation (DPT7 similar)

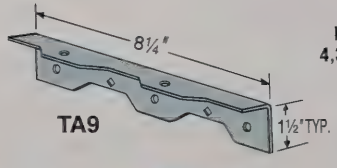
TA STAIRCASE ANGLES

For use in structurally-sound staircase framing. The TA eliminates costly conventional notching.

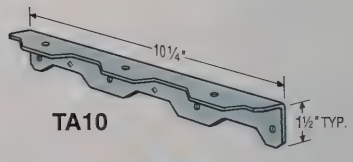
MATERIAL: 12 gauge.
FINISH: Galvanized
CODE: Dade Co, FL 99-0713.05.

Model No.	Fasteners		Avg Ult	Allowable Download (100)
	Stringer	Tread		
TA9	3-SDS¼ x 1½	2-SDS¼ x 1½	5400	315
TA10	3-SDS¼ x 1½	4-SDS¼ x 1½	5400	315
TA10	4-SDS¼ x 1½	3-SDS¼ x 1½	5400	415

1. Loads may be adjusted for other load durations according to the code.
2. See page 8 for SDS information.
3. ¼" lag bolts may be used. Follow the code requirements for predrilling.

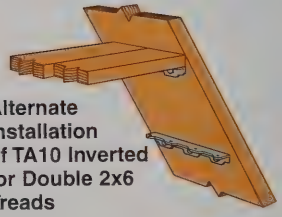


TA9
U.S. Patent 4,367,973



TA10


Typical TA9 Installation


Alternate Installation of TA10 Inverted for Double 2x6 Treads

PGT® PIPE GRIP TIES®

NEW! PGTIC2 is an interior corner pipe grip tie.

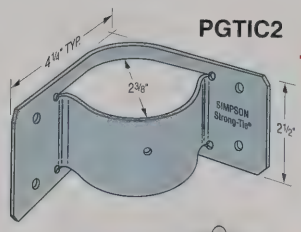
No more rotted and failed fence posts! The PGT pipe grip tie handles corners, splices and uneven terrain, replacing wood posts.

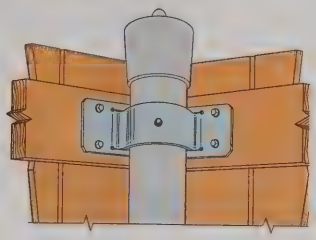
The PGT1.5 is for 1½" pipe (1⅞" outside diameter), and the PGT2 for 2" pipe (2⅜" outside diameter).

MATERIAL: 12 gauge. **FINISH**: Galvanized

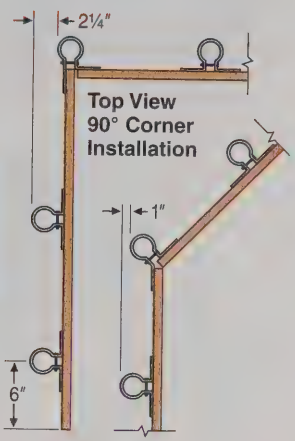
INSTALLATION: • Use all specified fasteners. See General Notes.

- Install on vertical pipes, offsetting corners to allow for the correct rail alignment.
- Use 3 to 4 PGTs per pipe; line up to stringline.
- Fasten PGT with ¼" hex head bolt (supplied).
- PGT attaches to rails with four SDS¼" wood screws. See page 8 for SDS screw information.
- ¼" lag bolts may be used. Follow the code requirements for predrilling.
- Nail fence boards to rails.



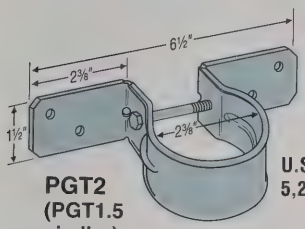


Typical PGTIC2 Fence Installation



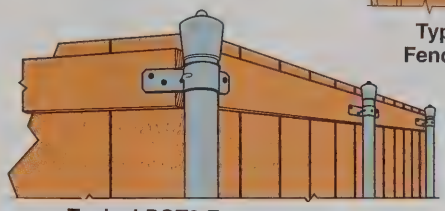
Termination Top View

Top View 45° Corner Installation



PGT2 (PGT1.5 similar)

U.S. Patent 5,297,890



Typical PGT2 Fence Installation

FB FENCE BRACKETS

The FB26 attaches standard 8 foot lengths of 2x6 wood rails to the center of 4x4 or larger posts to create a symmetrical fence design. The split rail design gives equal lateral strength to both sides of the fence.

Quick connections allow easier planning and building of porches, patios, fences, and louvers.

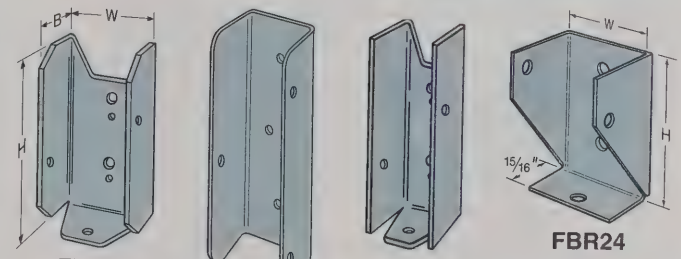
MATERIAL: See table. **FINISH**: Galvanized

INSTALLATION: • Holes are sized for 8dx1½", 8d commons or #6 wood screws into the supporting member. FBR24 and FBL24 are sized for 10dx1½".

- FB26 requires six SD8X1.25 screws.

Model No.	Ga	Member Size	Dimensions		
			W	H	B
FBL24	22	2x4	1⁹⁄₁₆	2¾	¾
FB14	20	1x4	¾	3½	¾
FB16	20	1x6	¾	5⅜	¾
FB24	20	2x4	1⁹⁄₁₆	3⅜	¾
FB24R	20	2x4 RGH	2	3⅜	¾
FBR24	18	2x4	1⁹⁄₁₆	2⁷⁄₁₆	1½
FB26	18	2x6	1⁹⁄₁₆	5	1½

1. FB26 has an allowable load for F1 of 365 lbs.

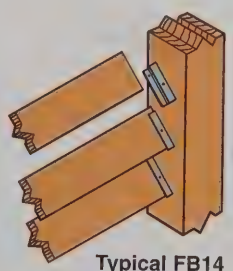


FB24 (FB24R Similar)

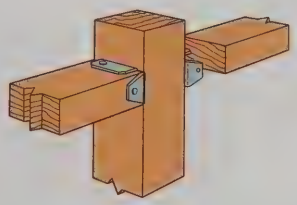
FB26

FB14 (FB16 Similar)

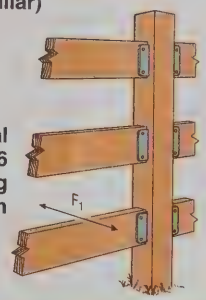
FBR24



Typical FB14 Louver Installation



Typical FB24 Installation



Typical FB26 Fencing Installation

FC FRAMING CLIPS

For fast, accurate framing. Three-dimensional nailing pattern results in high-strength joint values. Ideal for fence construction.

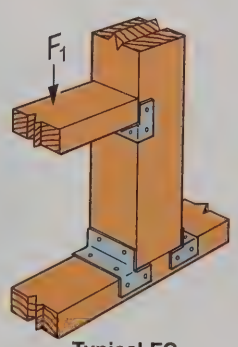
MATERIAL: 16 gauge. **FINISH**: Galvanized

INSTALLATION: Use all specified fasteners. See General Notes.

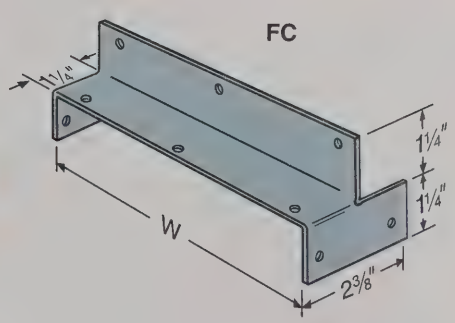
CODES: BOCA, ICBO, SBCCI NER-413; Dade County, FL 97-0107.05; City of L.A. RR 25119.

Model No.	W	Fasteners	Avg Ult	Allowable F_1 Loads (100)
FC4	3⁹⁄₁₆	8-16d	3107	800
FC6	5½	10-16d	3107	920

1. Loads may not be increased for short-term loading.
2. A 2½" minimum lumber thickness is required to achieve the full load.



Typical FC Load Installation



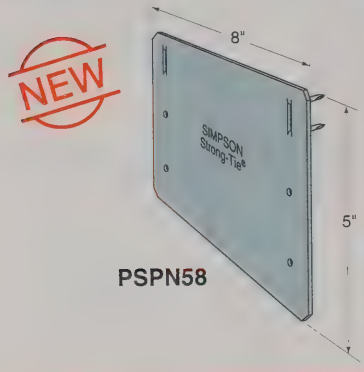
Catalog C-2001 © Copyright 2000 SIMPSON STRONG-TIE CO., INC.

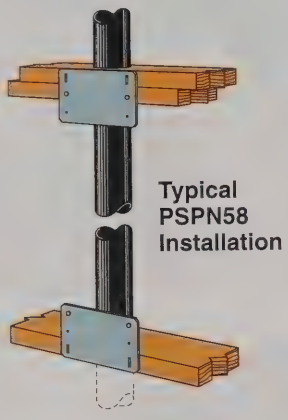
NS/NSP NAIL STOPPERS

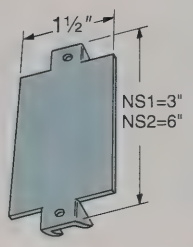
NEW! PSPN58 Protecting Shield Plate Nail Stopper is designed to meet the International Plumbing Code.

Nail Stoppers help prevent nails from piercing water pipes and electrical lines. Installed over utilities that pass through framing members. 16 gauge steel conforms to the National Electric Code.

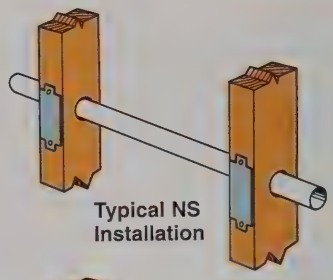
MATERIAL: 16 gauge
FINISH: Galvanized
INSTALLATION: 8d commons or prongs.

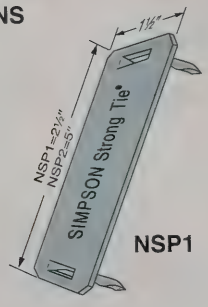



Typical PSPN58 Installation

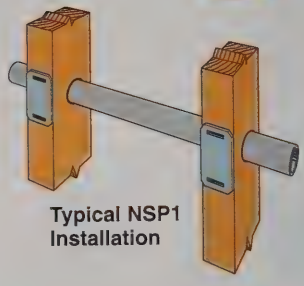


NS


Typical NS Installation



NSP1


Typical NSP1 Installation

DS DRYWALL STOP

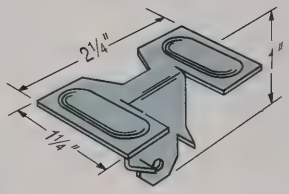
Eliminates costly blocking at top plate, end walls, and corners. A typical residence will use several hundred of these inexpensive clips with a substantial savings in blocking and labor.

The installation prongs provide even more labor savings.

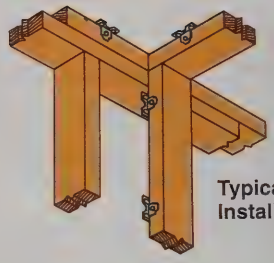
MATERIAL: 20 gauge
FINISH: Galvanized
INSTALLATION: 16" on center or less, using 8d commons.

- DS should not be used where gypsum board is used for structural loads.

CODE: BOCA, ICBO, SBCCI NER-413.



DS


Typical DS Installation

HSS/SS STUD SHOES

NEW! The SS2.5 is sized for 3x studs.

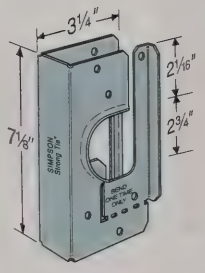
HSS Stud Shoes provide tension load capacity as well as increased compression loads. Flared flange provides greater strength. Installs over pipe up to 2⅜" outside diameter.

Stud Shoes reinforce joists, studs, and rafters notched in construction—NOT a total replacement of removed material.

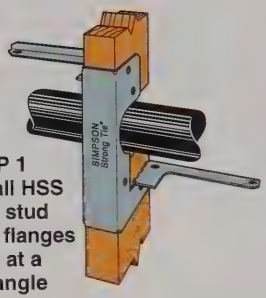
MATERIAL: 18 gauge.
FINISH: Galvanized
INSTALLATION: Use all specified fasteners. See General Notes.

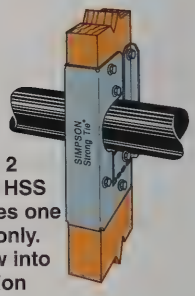
- HSS: Bend flanges at 90° angle during installation, then bend back and screw into position (screws supplied).
- Bend flanges one cycle only.

CODE: BOCA, ICBO, SBCCI NER-432 (SS1.5, SS3).



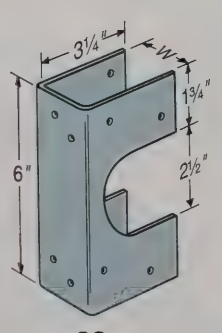
HSS
Patent Pending


STEP 1
Install HSS over stud with flanges bent at a 90 angle

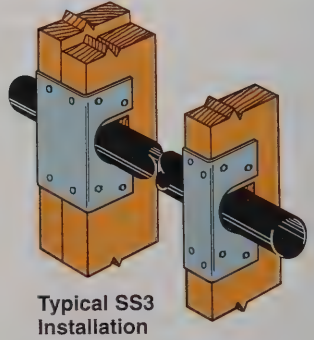

STEP 2
Bend HSS flanges one time only. Screw into position

Model No.	W	Fasteners	Avg Ult	Allowable Loads[1]		
				Compression		Tension
				Floor (100)	Roof (125)	
SS1.5	1⅜	12-10dx1½	1617	500	500	—
NEW SS2.5	2⅜	12-10dx1½	1617	500	500	—
SS3	3	12-10d	2433	665	785	—
SS4.5	4½	14-10d	2433	665	785	—
HSS2	1⅜	12-SDS¼x1½	3600	1200	1200	1000
HSS2-2	3	12-SDS¼x3	3600	1200	1200	1000
HSS4	3⅜	12-SDS¼x3	3600	1200	1200	1000

1. Roof loads are 125% of floor loads unless limited by other criteria. Floor loads may be adjusted for other load durations according to the code, provided they do not exceed roof loads.



SS


Typical SS3 Installation

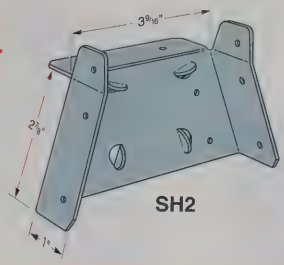
Typical SS1 Installation

SH2 SAWHORSE BRACKETS

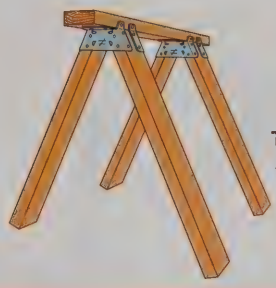
MATERIAL: 18 gauge
FINISH: Galvanized

- Allows for square cut lumber
- Remove cross brace for easy storage
- No angle cuts required.

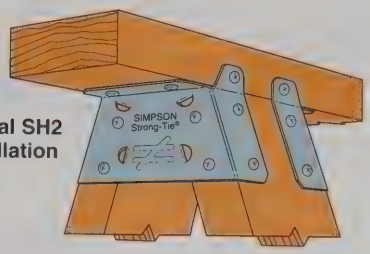
NEW



SH2



Typical SH2 Installation



RTC RIGID TIE™ CONNECTORS

The **RTCH** is hidden inside the connection, and secures three 2x members at 90° angles.

The **RTC** series secures two wood members forming a 90° corner to a vertical post.

The **RTC42** and **RTC44** are heavy-duty structural connectors. Based on loads of 40 lbs per sq ft, a 10' x 10' deck can be built using 2x8 joists and 4 RTC42s. See the table for Post and Joist sizes.

RTB–a bracket for intersecting 2x members.

FWH and **FWL**–4 way connectors for 2x members with bendable flanges.

RTA–connects two 2x wood members at a 90° angle.

RTF–connects two members in a "pass-through" application.

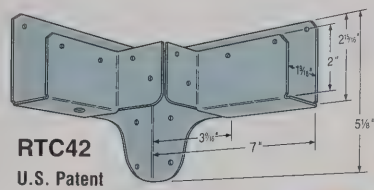
MATERIAL: RTC44–14 gauge; RTA2–16 gauge; RTCH–20 gauge; all others–18 gauge
FINISH: Galvanized
INSTALLATION:

- Use all specified fasteners. See General Notes.
- Install vertical members first, then attach horizontal members for easier alignment.
- Seat wood member in bracket with a C-clamp before securing to aid positioning and prevent skewing.
- Always follow manufacturer's instructions when using power tools and building equipment.

CODE: BOCA, ICBO, SBCCI NER-421 (RTC models).

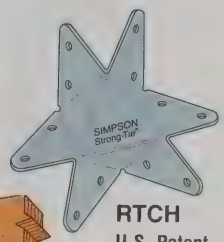
Model No.	Post Size	Joist Size	Fasteners (Total)		Down Avg Ult	Allowable Downloads[1]	
			Post	Joist		Floor (100)	Roof (125)
FWL2	2x	2x	4-SD8X1.25	4-SD8X1.25	N/A	N/A	N/A
FWH2	2x	2x	8-SD8X1.25	8-SD8X1.25	N/A	N/A	N/A
RTA12	1x	1x	4-SD8X1.25	4-SD8X1.25	N/A	N/A	N/A
RTA2	2x	2x	4-SD8X1.25	4-SD8X1.25	N/A	N/A	N/A
RTA4	4x	4x	7-SD8X1.25	5-SD8X1.25	N/A	N/A	N/A
RTB22	2x	2x	4-SD8X1.25	4-SD8X1.25	N/A	N/A	N/A
RTC22	2x	2x	5-SD8X1.25	6-SD8X1.25	N/A	N/A	N/A
RTCH	2x	2x	4-SD8X1.25	4-SD8X1.25	1290	300	375
RTC24	2x4	2x	9-SD8X1.25	11-SD8X1.25	3250	680	850
RTC42	4x4	2x	14-SD8X1.25	8-SD8X1.25	7583	985	1230
	4x4	2x	14-16d Sinkers	8-10dx1½	7667	1445	1805
	4x4	2x	14-16d	8-10dx1½	7667	1730	2160
RTC44	4x4	4x	14-16d Sinkers	15-16d Sinkers	9500	1580	1980
	4x4	4x	14-16d	15-16d	9500	1875	2345
RTF2	2x	2x	4-SD8X1.25	8-SD8X1.25	N/A	N/A	N/A
RTT22	2x	2x	3-SD8X1.25	7-SD8X1.25	N/A	N/A	N/A

1. Allowable loads must be equally distributed on both joists.
2. Loads are for Doug Fir-Larch.



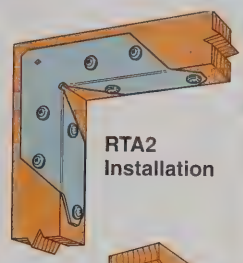
RTC42

U.S. Patent 5,399,044 (RTC22 similar, U.S. Patent 5,328,287; RTC24 similar, U.S. Patent 5,259,685)



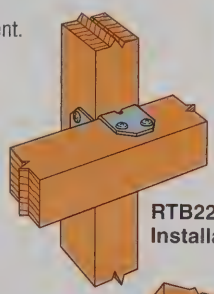
RTCH

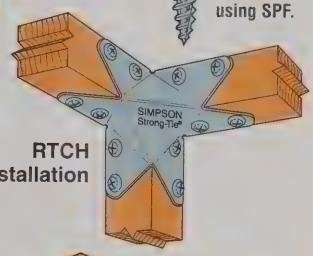
U.S. Patent 6,022,165


RTA2 Installation

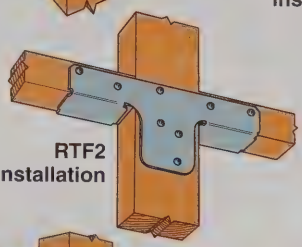

SD8X1.25

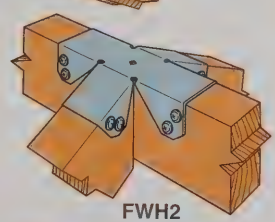
Shear load using DF/SP is 76 lbs. and 65 lbs. using SPF.

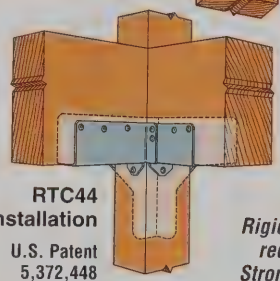

RTB22 Installation



RTCH Installation

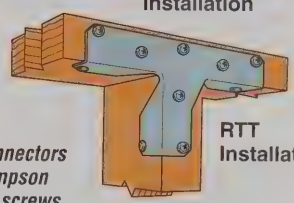

RTF2 Installation


FWH2 Installation


RTC44 Installation

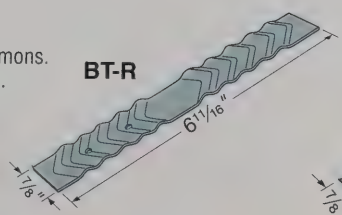
U.S. Patent 5,372,448

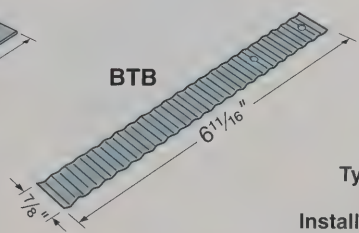
Rigid-Tie connectors require Simpson Strong-Drive screws.

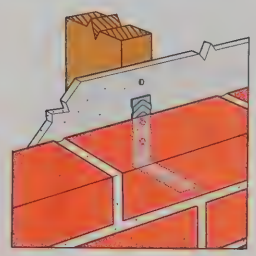

RTT Installation

BT-R/BTB BRICK TIES

MATERIAL: 22 gauge
FINISH: Galvanized
INSTALLATION: Holes sized for 10d commons. See code for spacing requirements.
To order: BT-R = Retail
BTB = Bulk - 800 per box






Typical BT-R Installation

Catalog C-2001 © Copyright 2000 SIMPSON STRONG-TIE CO., INC.

SBV/CF-R SHELF BRACKETS/ CONCRETE FORM ANGLES

Use the SBV for shelving, counter brackets, window ledge supports, at a very competitive price.

The CF-R is used where a moderate size shelf bracket and reinforcing angle is needed. When used for tilt-up perimeter forming, the nail hole placement ensures substantial re-use.

The Color Systems Innovative Shelving Solutions brings color to your home. Request Color Systems information on our decorative line of color shelf brackets.

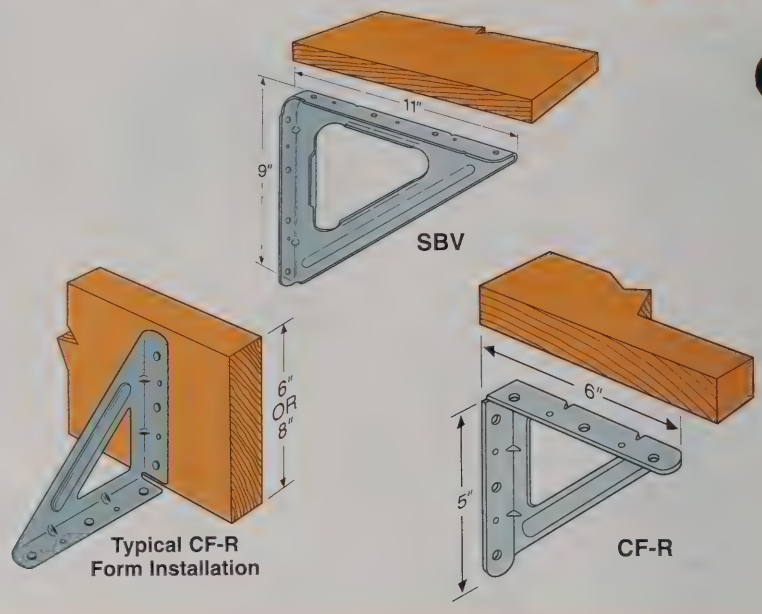
MATERIAL: 16 gauge.

FINISH: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.

- Use SDS¼x2" wood screws for optional installation. No predrilling required.
- SBV—Reversible for nominal 10" or 12" shelves of any thickness.
- CF-R (Retail Pack)—Recommended spacing is 36" for 2x's and 18" for 1x's. Use the 5" leg for 6" lumber and the 6" leg for 8" lumber. Holes are sized for ¼" fasteners or 10d commons.

Model No.	Fasteners	Avg Ult	Allowable Downloads (100)
	Stud		
CF	3-¼ x 2 LAGS	417	135
SBV	4-¼ x 2 LAGS	457	145



RC RIPPER CLIP

The Ripper Clip is designed to connect ripped 2x framing to the top of another wood joist.

MATERIAL: 20 gauge

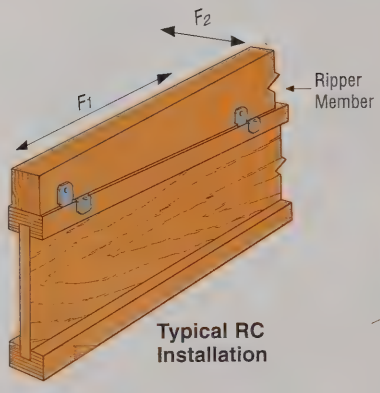
FINISH: Galvanized

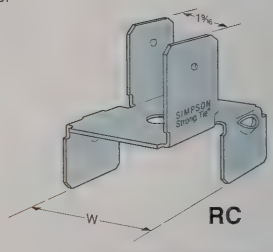
INSTALLATION: • Use all specified fasteners. Refer to General Notes.

- Attach RC to ripper.
- Attach ripper/RC assembly to roof joist.

Model No.	Ga	W	Fasteners		Allowable Uplift Load (133)	F_1	F_2
			Ripper	Joist			
RC1.56	20	1⅜	2-10dx1½	2-10dx1½	205	240	205
RC1.81	20	1¾					

1. Allowable loads are for use with Douglas Fir-Larch ripper members.
2. Uplift loads have been increased 33% for earthquake or wind loading with no other increase allowed. Reduce by 33% for normal loading.
3. Designer to consider stability/blocking requirements for system, if necessary.





U.S. Patent 5,603,580

CSC CEILING SUPPORT CLIP /FSS FURRING STABILIZER STRAP

Provides 1" separation between the furring channel and joist to allow for the use of Thermafiber® insulation and the attachment of the furring channel to all joists. Provides an efficient sound barrier, and a one hour U.L. listed fire rating.

Field-form the FSS with the CSC to prevent furring channel rotation during installation. Furring channel must match dimensions shown to fit the CSC properly.

U.L. listed. See Underwriters Laboratories, Inc, Design No. L530 for details. For the USG and TJI® products only.

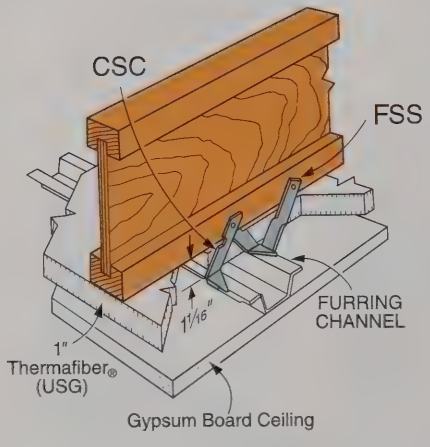
MATERIAL: 24 gauge (minimum).

FINISH: Galvanized

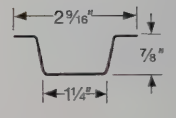
INSTALLATION: Use 1-8d x 1½" nail.

CODES: BOCA, ICBO and SBCCI No. NER-200.

Thermafiber® and TJI® are registered trademarks of US Gypsum Company and Trus Joist, a company of Weyerhaeuser, respectively.



Typical CSC and FSS Installation



Furring Channel detail

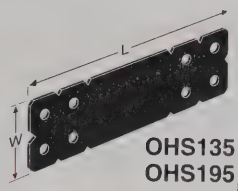
FINISH: Textured powder-coated flat black paint.
INSTALLATION: • Use all specified fasteners. See General Notes.
• Request S-ORN22 for additional product information.

Model No.	Ga	Dimensions			Fasteners		Allowable Loads[1,2]	
		W	H	L	Qty	Dia	(133)	(160)
STRAP TIES								
OS	12	2	—	12	4	½	1280	1535
OHS	7	2½	—	12	4	⅝	1630	1955
OHS135	7	6	—	13½	4	¾	4100	4920
OHS195	7	6	—	19½	8	¾	8170	9800
OL	12	2	12	12	4	½	—	—
OHL	7	2½	12	12	4	⅝	—	—
OT	12	2	12	12	6	½	—	—
OHT	7	2½	12	12	6	⅝	—	—
HEAVY ANGLES								
OHA33	7	3⅜	—	3	2	¾	—	—
OHA36	7	3⅜	—	6	4	¾	—	—

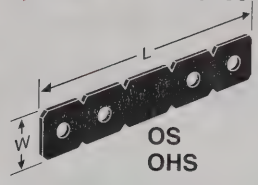
1. Allowable loads are based on parallel-to-grain loading and a minimum member thickness of 3½" with bolts in single shear.
2. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.

NEW

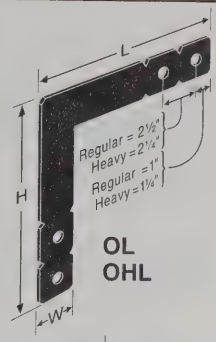

OHU



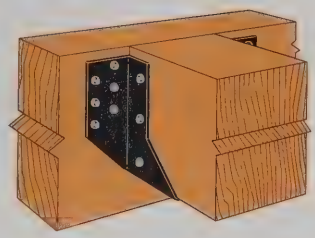
OHS135
OHS195



OS
OHS

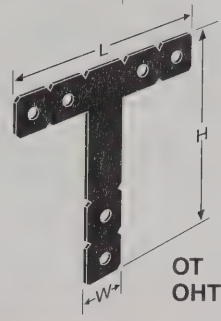


OL
OHL


Typical OHU Installation



OHA



OT
OHT

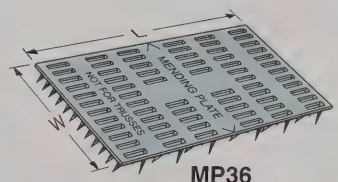
Joist Size	Model No.	W	H	B	No. of SDS ¼x3 Wood Screws		Douglas Fir					Spruce Pine Fir				
					Face	Joist	Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	Uplift (133)	Uplift (160)	Floor (100)	Snow (115)	Roof (125)
4x6	OHU46-SDS3	3⅜	5	4	6	4	1535	1535	1840	2120	2305	1290	1290	1585	1820	1980
4x8	OHU48-SDS3	3⅜	6¾	4	8	6	1535	1535	2455	2675	2675	1290	1290	2110	2245	2245
4x10	OHU410-SDS3	3⅜	8¾	4	12	6	2455	2525	3685	4235	4605	2110	2120	3170	3645	3960
4x12	OHU412-SDS3	3⅜	10¾	4	12	8	2525	2525	3685	4235	4605	2120	2120	3170	3645	3960
4x14	OHU414-SDS3	3⅜	12¾	4	14	10	2525	2525	4300	4945	5375	2120	2120	3695	4250	4620
6x6	OHU66-SDS3	5½	5	4	6	4	1535	1535	1840	2120	2305	1290	1290	1585	1820	1980
6x8	OHU68-SDS3	5½	7	4	12	6	2455	2525	3685	4235	4605	2110	2120	3170	3645	3960
6x10	OHU610-SDS3	5½	9	4	14	6	2455	2525	4300	4945	5375	2110	2120	3695	4250	4620
6x12	OHU612-SDS3	5½	11	4	16	8	2525	2525	4910	5630	5630	2120	2120	4225	4730	4730
6x14	OHU614-SDS3	5½	13	4	18	10	3950	3950	5525	6355	6860	3320	3320	4750	5465	5765

1. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed.

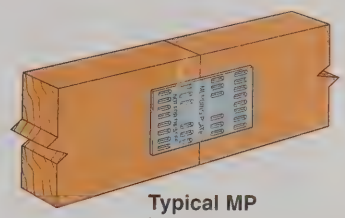
MP MENDING PLATES

Versatile and easy-to-use mending plates for wood-to-wood connections. No nails or notching of wood required. For non-structural applications only; and not for truss applications.
MATERIAL: 20 gauge.
FINISH: Galvanized
INSTALLATION: • Place plate over two pieces of aligned wood with arrows aligned at joint.
• Hammer the plate to embed the prongs.

Model No.	Dimensions	
	W	L
MP14	1	4
MP24	2	4
MP36	3	6



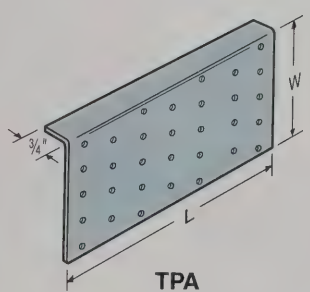
MP36
(other sizes similar)


Typical MP Installation

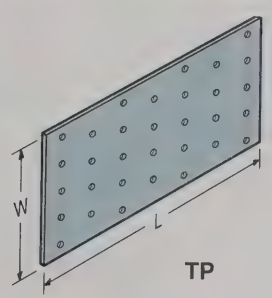
TP/TPA TIE PLATES

TPs are nail-on tie plates. TPAs are flanged for added support.
MATERIAL: 20 gauge.
FINISH: Galvanized
INSTALLATION: Holes are sized for 8d common or 8dx1½" nails.

Model No.	Dimensions		Number of Nail Holes
	W	L	
TP15	1 13/16	5	13
TPA37	3½	7	32
TPA39	3½	9	41
TP35	3⅛	5	23
TP37	3⅛	7	32
TP39	3⅛	9	41
TP311	3⅛	11	50
TP45	4⅛	5	30
TP47	4⅛	7	42
TP49	4⅛	9	54
TP411	4⅛	11	66
TP57	5¾	7	60
TPA57	5	7	49



TPA



TP

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WB/WBC/TWB/CWB/RCWB WALL BRACING

Designed to fulfill the same code bracing requirements as 1x4 let-in bracing, but less expensive and faster to install. Resists racking during construction.
Not designed to replace structural panel shearwall load-carrying component.

The WBC (coiled WB) multiple product dispenser pack weighs less than 40 pounds, making storage and transportation easy.

The RCWB features a rolled edge (the TWB has two rolled edges) for extra strength and safety.

MATERIAL: WB and WBC—16 gauge; CWB—18 gauge; TWB—22 gauge; RCWB—20 gauge

FINISH: Galvanized

INSTALLATION: • Use all specified fasteners. See General Notes.

WB and WBC: • Install in "X" pairs or in opposing "V" fashion.

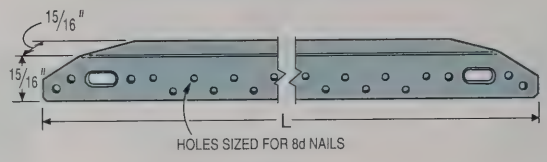
• Use with 16" or 24" o.c. studs.

CWB, RCWB and TWB: • Use with 16" o.c. studs.

• Establish a run-line using the bracing as a straight edge. Single cut a saw kerf ⅝" deep (TWB) or 1" deep (CWB and RCWB) along the run line. If the wall is pre-framed on the floor, place the part into the saw kerf, and put one nail into the top plate. Tilt the wall up and plumb before nailing off top plate, bottom plate and studs according to the nailing schedule.

CODES: BOCA, ICBO, SBCCI NER-413, NER-432, NER-443, NER-422; City of L.A. RR 25074, RR25119, RR25149.

For personal safety, install the CWB with sheared edges down.



CWB



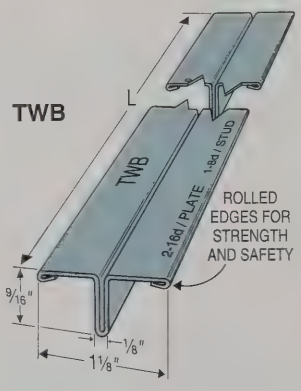
WB

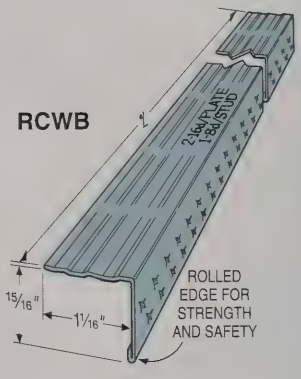


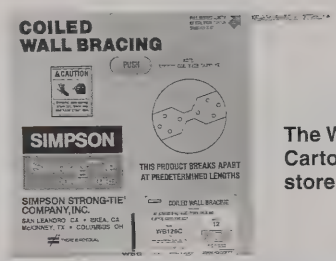
BREAK OFF WBC AT PREDETERMINED LENGTH

WBC

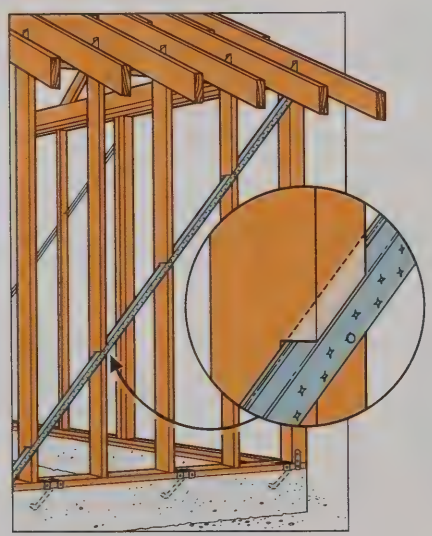
Model No.	L	Angle and Wall Size	Fasteners	
			Plates	Studs
RCWB10	9′-9″	8′ @ 55	2-16d	1-8d
WB106	9′-5⅝″	8′ @ 60	3-16d	1-8d
WB106C	9′-6″	8′ @ 60	3-16d	1-8d
CWB106	9′-5¾″	8′ @ 60	2-16d	1-8d
TWB10	9′-9″	8′ @ 55	2-16d	1-8d
RCWB12	11′-4″	8′ @ 45	2-16d	1-8d
WB126	11′-4⅜″	8′ @ 45	3-16d	1-8d
WB126C	11′-4¾″	8′ @ 45	3-16d	1-8d
CWB126	11′-4⅜″	8′ @ 45	2-16d	1-8d
TWB12	11′-4″	8′ @ 45	2-16d	1-8d
WB143C	14′-3″	10′ @ 45	3-16d	1-8d
RCWB14	14′-2″	10′ @ 45	2-16d	1-8d
TWB14	14′-2″	10′ @ 45	2-16d	1-8d



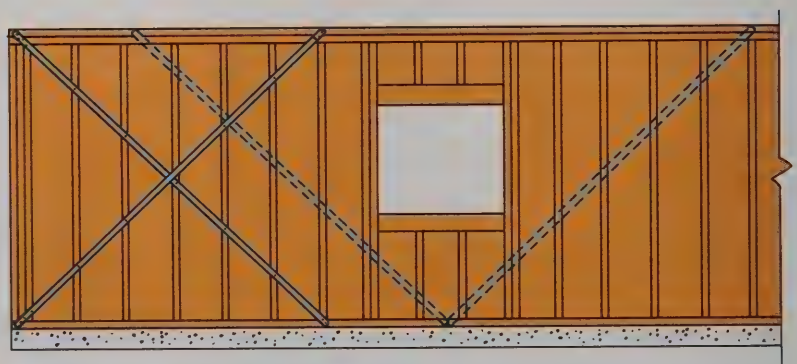




The WBC Handy Carry Carton is convenient to store, transport and use.



Typical RCWB Installation



WB or WBC Wall Bracing "X" and "V" Applications

Miscellaneous

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NC/NCA—Nailless installation eliminates callbacks for nail squeaks. Designed for secure grip before the drive-home blow, and deeper prong penetration. Precision-formed into a rigid "V" section. **NB**—The same application as NC/NCA bridging, but installed with nails. **TB**—Tension-type bridging with maximum nailing flexibility. Use just two of the seven nail holes at each end. **LTB**—Staggered nail pattern accommodates 2x8 and 2x10 joists. Use just two of the six nail holes at each end. LTB40 has rigid prongs that install easily into the joist, and embossments that allow crisp bends.

MATERIAL: LTB—22 gauge; NCA, NBA and TB—20 gauge (except NCA2x12-16 and NBA2x12-16—18 gauge); NB and NC—16 gauge

FINISH: Galvanized

INSTALLATION:
- Support floor joists with a depth-to-thickness ratio of six or more with bridging at intervals not exceeding 8'. If span is greater than 8', install on 2x8 or larger joists. If span is greater than 16', use more than one pair.
- Tension bridging works only in tension, so must be used in cross pairs.
- Install bridging tightly; loose installation may allow floor movement.
- NC/NCA may be installed before or after sheathing, from the top or bottom. Simply locate the bend line approximately 1" from the joist edge.
- NC/NCA has nail holes in one end for use if a prong is bent during installation. Fully seat nails if they are used; otherwise, they may lead to squeaks.
- NB requires two 8dx1½" fasteners at each end (included).
- TB requires two 10dx1½" fasteners per end (not included).
- LTB requires two 6d commons per end (not included).
- **Nail bridging only:** When installation for the connection to the top of the stud wall instead of the joist underside, use a strap one size smaller than shown in the table.

OPTIONS: Other TB sizes available—TB42, 48, 54, 56 and 60.

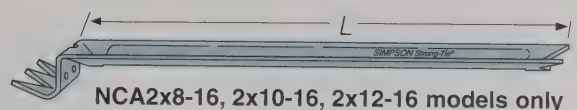
CODES: BOCA, ICBO, SBCCI NER-413, NER-443; City of LA RR 25119.

TENSION BRIDGING FOR I-JOISTS

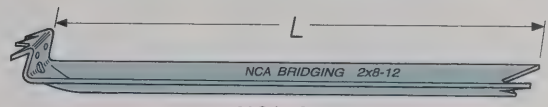
Joist Height	Joist Spacing (Inches)								
	12	16	19.2	24	30	32	36	42	48
9½	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
10	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
11⅞	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
12	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
14	TB27	TB27	TB27	TB36	TB36	TB42	TB42	TB48	TB54
16	TB27	TB27	TB30	TB36	TB42	TB42	TB42	TB48	TB54
18	TB27	TB30	TB30	TB36	TB42	TB42	TB48	TB54	TB56
20	TB30	TB30	TB36	TB36	TB42	TB42	TB48	TB54	TB56
22	TB30	TB36	TB36	TB36	TB42	TB42	TB48	TB54	TB56
24	TB36	TB36	TB36	TB42	TB42	TB48	TB48	TB54	TB56
26	TB36	TB36	TB36	TB42	TB48	TB48	TB48	TB54	TB60
28	TB36	TB36	TB42	TB42	TB48	TB48	TB54	TB54	TB60
30	TB36	TB42	TB42	TB42	TB48	TB48	TB54	TB56	TB60
32	TB42	TB42	TB42	TB42	TB48	TB48	TB54	TB56	TB60

Joist Size	Spacing	NC		NB		TB		LTB
		Model No.	L	Model No.	L	Model No.	L	Model No.
2x8	12" o.c.	NCA2x8-12	11⁹⁄₁₆	NBA2x8-12	10⅝	TB20	20	—
2x10	12" o.c.	NCA2x10-12	12½	NBA2x10-12	11½	TB20	20	—
2x12	12" o.c.	NCA2x12-12	13⅝	NBA2x12-12	12⅜	TB27	27	—
2x14	12" o.c.	NCA2x8-16	15¼	NBA2x8-16	14⅜	TB27	27	—
2x16	12" o.c.	NCA2x10-16	15¹³⁄₁₆	NBA2x10-16	15	TB27	27	—
2x8	16" o.c.	NCA2x8-16	15¼	NBA2x8-16	14⅜	TB27	27	LTB20 or 40
2x10	16" o.c.	NCA2x10-16	15¹³⁄₁₆	NBA2x10-16	15	TB27	27	LTB20 or 40
2x12	16" o.c.	NCA2x12-16	16⅞	NBA2x12-16	15⅞	TB27	27	—
2x14	16" o.c.	NC2x14-16	18	NB2x14-16	16⅞	TB27	27	—
2x16	16" o.c.	NC2x16-16	19¼	NB2x16-16	18	TB27	27	—
2x10	24" o.c.	NC2x10-24	23⁹⁄₁₆	NB2x10-24	22¾	TB36	36	—
2x12	24" o.c.	NC2x12-24	24¼	NB2x12-24	23⅛	TB36	36	—
2x14	24" o.c.	NC2x14-24	25⅛	NB2x14-24	24⅛	TB36	36	—
2x16	24" o.c.	NC2x16-24	26⅛	NB2x16-24	25	TB36	36	—

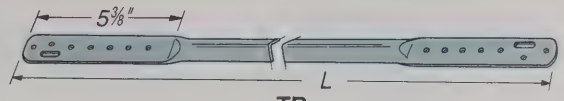
Space bridging to avoid contact noises.



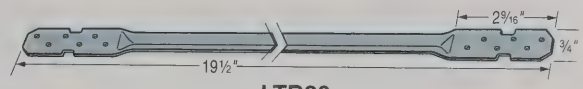
NCA2x8-16, 2x10-16, 2x12-16 models only



NC/NCA



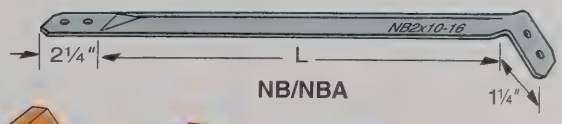
TB



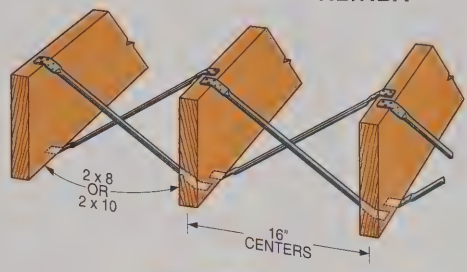
LTB20



LTB40



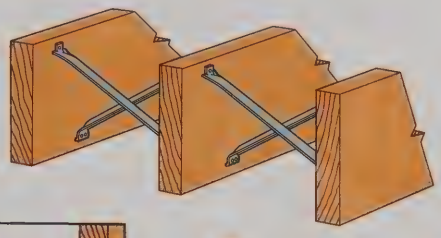
NB/NBA

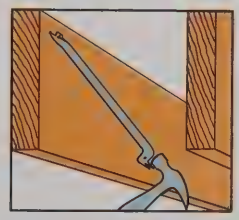


Typical LTB20 Installation

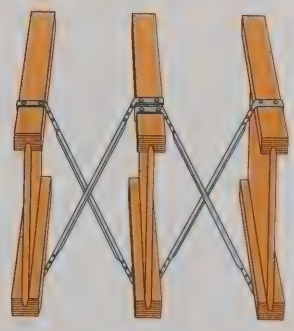
2 to 3 times faster installation than wood bridging.

Typical NC Installation

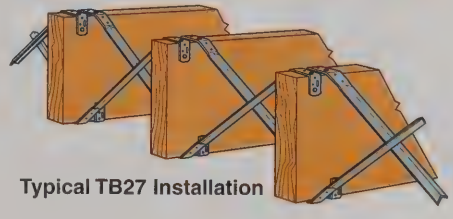




Install from below as shown, or from above. Drive upper end into joist approximately 1" from the top.



Typical LTB Installation



Typical TB27 Installation

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HANGER OPTIONS GENERAL NOTES

This information applies only to the hangers manufactured by Simpson Strong-Tie and installed per our instructions. **Some combinations of these options on a single hanger have not been evaluated. In some cases, combinations of these options cannot be manufactured. A qualified designer must always evaluate each connection, including header and joist limitations, before specifying the product.**

Testing is performed using a standardized hanger test method. The joist in the test setup may include the minimum amount of structural stability where appropriate. For example, the sloped down hanger tests are assembled with a joist cut on the lower end to lie flush with a wood member attached with three 8d common toenails. Header and other attached structural members are assumed fixed in actual installations. Horizontal loads induced by sloped joists must be resisted by other members in the structural system.

MATERIAL: Gauge may vary from that specified depending on the manufacturing process used. U, HU, HUTF, W and B hangers normally have single-piece stirrups; occasionally, the seat may be welded. Hanger configurations, height and fastener schedules may vary from the tables depending on the joist size, skew and slope.

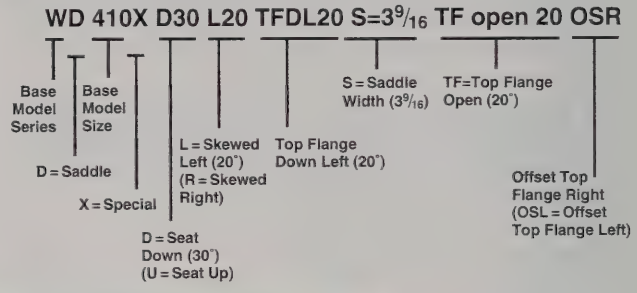
FINISH: See specific hanger tables. Welded specials: Simpson gray paint. Specials that are not galvanized before fabrication can be hot-dip galvanized after fabrication; specify HDG.

CODES: Modified hangers, due to their numerous variations, are not on code reports, except U/HU (NER-499).

LOADS: For multiple options on the same connector, use the smallest reduction factor to give the lowest design loads.

TO ORDER: Use the abbreviations below to order specials. The example shows a W410 hanger and illustrates most available options; most special hangers have only a few of these features.

INSTALLATION: • Fastener quantities may be increased beyond the amount specified in the standard hanger table.
- Fill all holes with the table-specified fastener types.
- N20A, N20AN and N54A fasteners are supplied with hangers.
- B, W and GLT hangers for sloped seat installations are assumed backed. To order a custom, non-backed hanger, contact factory.
- Bevel-cut the wood member's end for skewed type A hangers; butt-cut wood members for skewed type B hangers.



MODEL	SKEWED SEAT (MAXIMUM)	SLOPED SEAT (MAXIMUM)	SKEWED & SLOPED SEAT	SLOPED TOP FLANGE	OPEN TOP FLANGE	CLOSED TOP FLANGE	OFFSET TOP FLANGE	SADDLE HANGER	RIDGE HANGER	CONCEALED FLANGE	UPLIFT	WELDABILITY	NON-BACKED	BEVEL CUT JOIST	SQUARE (BUTT) CUT JOIST
B/BI	45˚	45˚	•	•				•			•	•	•	•	
EG	45˚	45˚												•	
GB		45˚						•			•	•		•	
GH	45˚							•						•	
GLS	50˚	45˚	•	•			•	•			•	•		•	
GLT/GLTV	50˚	45˚	•	•			•				•	•	•	•	
GLTC											•	•		•	
HB/HBI	45˚	45˚	•					•			•	•	•	•	
HGB		45˚						•			•	•		•	
HGLS	50˚	45˚		•			•	•			•	•		•	
HGLT/HGLTV	50˚	45˚		•			•				•	•	•	•	
HGUS	45˚													•	
HHB		45˚						•			•	•		•	
HHUS	45˚	45˚	•								•			•	
HSUR/L*	45˚										•				•
HU	67½˚	45˚	•							•	•	•			•
HUS										•				•	
HUSTF										•				•	
HUTF	45˚	45˚	•							•	•				•
HW/HWI***	84˚	45˚	•	•	•		•	•	•			•	•	•	•
HWU	45˚	45˚	•					•			•			•	
LBV**	45˚	45˚	•	•				•			•	•	•	•	
LEG	45˚	45˚					•							•	
LSU/LSSU	45˚	45˚	•								•				•
MBHA	45˚														•
MEG	45˚	45˚					•							•	
MSC	45˚	45˚	•					•				•			•
SUR/L*	45˚										•				•
THGB	45˚	45˚													•
U	67½˚	45˚	•								•				•
W/WI***	84˚	45˚	•	•	•	•	•	•	•			•	•	•	•
WM/WMI	45˚	45˚	•				•				•		•	•	
WMU														•	
WNP/WP/WPI***	84˚	45˚	•	•	•	•	•	•	•			•	•	•	•
WPU/WNPU	45˚	45˚	•					•			•			•	

HANGER OPTIONS MATRIX

See pages 141 to 145 for model options.

NOTE: No uplift loads are allowed for welded header attachments.

* Available in 45° only.

**JB/LB cannot be modified, use LBV.

***Available in bevel cut or square cut joist

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ECCU

See Hanger Options General Notes.

UPLIFT

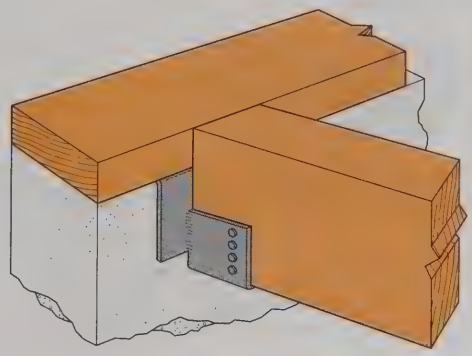
- The ECCU End Column Cap is a modified ECC that provides additional uplift load capacity.
- The ECCU accommodates the same beam and post sizes as the CC.
- ECCU44 and ECCU44ROT have two beam bolts; all other models have 4 beam bolts.
- Request Form T-ECCUP-R2 for complete load information.

GH

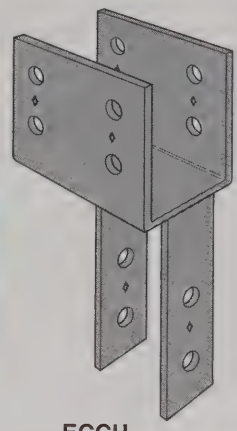
See Hanger Options General Notes.

SKEWED SEAT

- GH hangers may be skewed to a maximum of 45°.
- The allowable loads are 100% of the table load.



Typical GH Installation Skewed Right



ECCU
(except ECCU44)

B SERIES

See Hanger Options General Notes.
See also LSU/LSSU.

SLOPED OR SKEWED

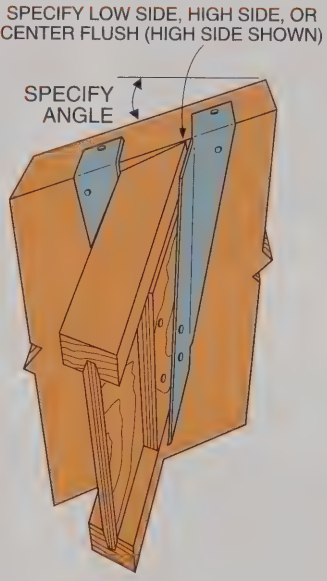
- Web stiffeners are required for I-joist.
- LBV, B, HB series hangers can be skewed to a maximum of 45° and/or sloped to a maximum of 45°.
- HHB, GB, HGB series may be sloped to a maximum of 45°.
- For skews greater than 15°, uplift loads are 0.50 of the table loads.
- Bevel cut the carried beam.
- LBV, B, HB—slope and skew combinations have a maximum allowable download of 0.71 for LBV, 0.73 for B, and 0.58 for HB hangers of the table load.
- For skews only, the maximum allowable download is 0.90 (for LBV hangers), 0.62 (for B and HB hangers) of the table load.
- For sloped only between 0° and 30°, the allowable load is 100% of the table load. For 31° to 45°, the maximum allowable download is 0.70 of the table load for the HGB series and 0.80 for all others.
- All combinations of slope and skew may have more than ⅛" deflection under a full load condition.

SLOPED TOP FLANGE

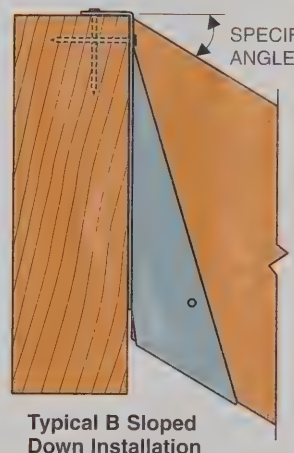
- A top flange may be ordered sloped down left or down right to 35° with or without a sloped and/or skewed seat (see illustration). Reduce allowable table loads using straight-line interpolation (see open/closed W hanger top flange section).

SADDLE HANGER

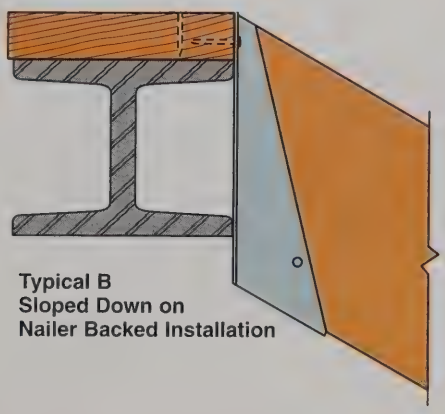
- See B Beam and Purlin Hangers page 54, 72 and 96.



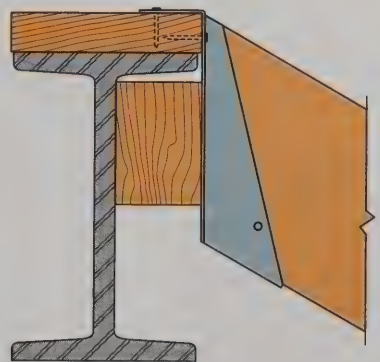
B Hanger Sloped Down and Skewed Left with Sloped Top Flange Installation.



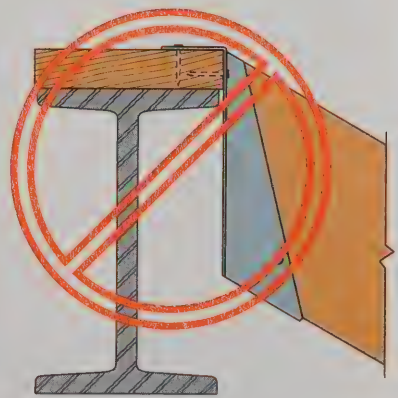
Typical B Sloped Down Installation with Full Backing
(LBV similar)



Typical B Sloped Down on Nailer Backed Installation



Typical B Sloped Down on Nailer with Backer Block



B Sloped Down NON-Backed on Nailer is NOT acceptable
(Contact factory for custom order)

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HANGER OPTIONS

U/HU

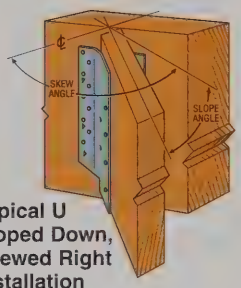
See Hanger Options General Notes.
Not all Slope and Skew Combinations are available.
CODE: BOCA, ICBO, SBCCI NER-499.

SLOPED AND/OR SKEWED

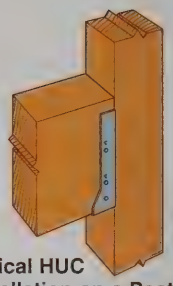
- For low-cost, code-reported 45° skews, see SUR/SUL and HSUR/HSUL. See also LSU/LSSU connectors.
- U/HU may be skewed to a maximum of 67½° and sloped to a maximum of 45°.
- For all options, uplift loads are 0.75 of table loads.
- For combined slopes and skews, the maximum allowable download is 0.80 of the table load.
- For slope only or skew only, the allowable download is 100% of the table load.

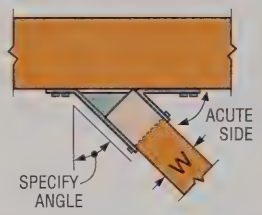
STRAIGHT OR CONCEALED FLANGE

- HU is available with the A flanges straight at 100% of the table loads if W ≥ 3½".
- If W < 3", use N10 nails at 0.64 of the table load.
- If W ≥ 3", use 10d nails at 0.84 of the table load.
- HU is available with A flanges concealed, provided the W dimension is 2⁹⁄₁₆" or greater, at 100% of the table load.
- HU is available with one flange concealed when the W dimension is less than 2⁹⁄₁₆" at 100% of the table load.
- For skewed only hangers, the flange on the acute side can be concealed at 100% of the table load. **Consult factory for skew limitations.**
- For sloped only hangers, flanges can be concealed at 100% of the table load.
- For sloped and skewed hangers, the flange on the acute side can be concealed at 0.80 of the table load. **Consult the factory for skew limitations.**
- When nailing into the carrying member's end grain, the allowable load is 0.67 of the table load.

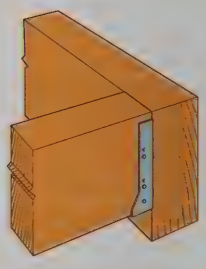


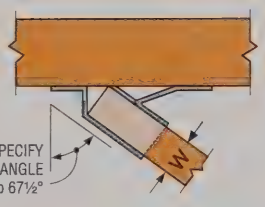
Typical U Sloped Down, Skewed Right Installation


Typical HUC Installation on a Post



Top View U Hanger Skewed Right


Typical HUC Installed on a Beam



Top View U Hanger Skewed Right > 50

HUTF

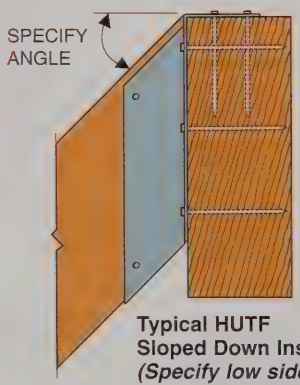
See Hanger Options General Notes.

SLOPED AND/OR SKEWED SEAT

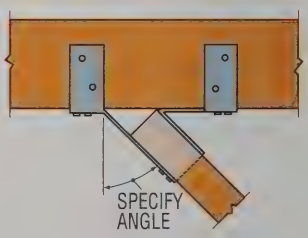
- HUTF can be skewed to a maximum of 45° or sloped to a maximum of 45°. HUTF can be skewed and sloped down, provided W ≥ 2⅜". Hangers with a skew greater than 15° may have all the joist nailing on the outside angle.
- For the skewed-only HU34TF, HU24-2TF and HU44TF, the allowable loads are 0.50 of the table load. All other models have a maximum allowable load of 0.60 of the table loads.
- For skews greater than 15°, uplift loads are 0.75 of the table loads.
- For sloped and skewed hangers, the allowable loads are 0.70 of the table loads.
- For sloped down only hangers, allowable load is 0.78 of the table load.

CONCEALED FLANGE

- HUTF is available with A flanges concealed provided the W dimension is 2⁹⁄₁₆" or greater, at 0.85 of the table load. No skew options available.



Typical HUTF Sloped Down Installation ***(Specify low side, high side, or center flush)***



Top View HUTF Hanger Skewed Right

HGUS/HHUS

See Hanger Options General Notes.

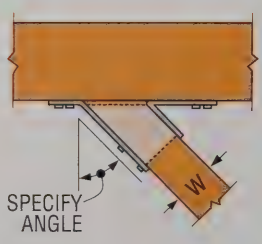
SLOPED AND/OR SKEWED SEAT

- HHUS hangers can be skewed to a maximum of 45° and/or sloped to a maximum of 45°.
- HHUS skew only, maximum allowable download is 0.85 of the table load.
- For sloped only or sloped and skewed hangers, the maximum allowable download is 0.65 for HHUS.
- Not all slope and skew combinations are available; consult the factory for information.
- The joist must be bevel-cut to allow for double shear nailing.
- Uplift loads for sloped/skewed conditions are 0.72 of the table load, not to exceed 2475 lbs for HHUS hangers.

HGUS hangers can be skewed only to a maximum of 45°. Allowable loads are:

Models	Down Load	Uplift
2x	0.75 of table load	0.84 of table load
2-2x, 3-2x	0.45 of table load	0.50 of table load

- Square or bevel cut is acceptable.



Top View HHUS Hanger Skewed Right (joist must be bevel cut) All joist nails installed on the outside angle.

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W/WNP/HW/WPT/WNPPT/WMPT

See Hanger Options General Notes.

INSTALLATION: • Some models are available in Type A (Bevel Cut) and Type B (Butt Cut) styles; all models are available in Type B style. **Check factory when ordering.**
- Bevel-cut the joist for skewed Type A hangers (see illustration). Butt-cut the joist for Type B hangers.
- Hangers with a skew greater than 15° may have all the joist nails on the outside angle.
- Skewed HWs have face nails and require a minimum header depth of 3½".

HANGER HEIGHT
- For hanger heights exceeding the joist height by more than 2", the allowable load is 0.50 of the table load. Fillers are acceptable to maintain full load.

SLOPED AND/OR SKEWED SEAT
- Non-skewed hangers can carry the design load when the seat slope is within 2° of the joist slope. Designer must check that wood bearing is not limiting.
- W/WNP/HW series may be skewed to a maximum of 84° and/or sloped to a maximum of 45°.
- For slope only, skew only, or slope and skew combinations, the allowable load is 100% of the table load.

UPLIFT LOADS
- Hangers can be sloped to 45° and/or skewed 45° at 100% of the uplift load.
- Skew option is only on hangers with "W" 3 9/16" or less.
- For skews greater than 45° there is no uplift load.
- Specify the slope up or down in degrees from the horizontal plane and/or the skew right or left in degrees from the perpendicular vertical plane. Specify whether low side, high side or center of joist will be flush with the top of the header (see illustration).

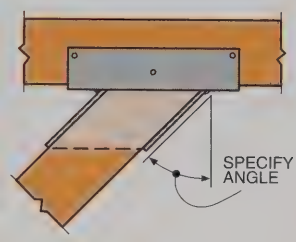
SLOPED TOP FLANGE
- A top flange may be ordered sloped down left or down right to 35° with or without a sloped and/or skewed seat (see illustration). Reduce allowable table loads using straight-line interpolation (see open/closed top flange).

OFFSET TOP FLANGE
- The top flange may be offset left or right for placement at the end of a header (see illustration). The allowable load is 0.50 of the table load.
- For skewed and offset top flange hangers, the maximum allowable load is 0.50 of the table load or 2000 lbs., whichever is lower.

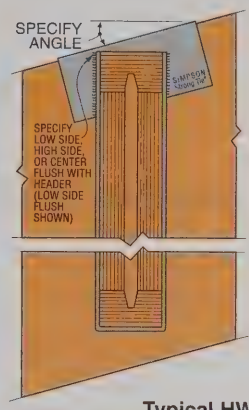
OPEN/CLOSED TOP FLANGE
- The top flange may be opened more or closed less than the standard 90° (see illustration) to a maximum of 30°, except the HW which can not be closed. Reduce allowable loads using straight-line interpolation.
- Example: For a top flange open 30°, reduce load to [(90-30)/90] x table load.

SADDLE HANGER
- To order, add D to model and specify S dimension (see illustration).

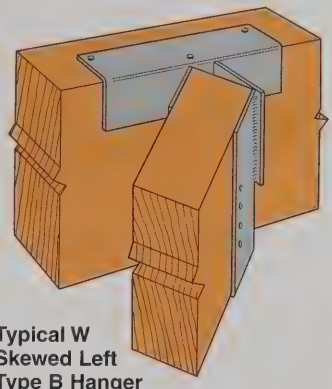
RIDGE HANGER
- Top flange may be sloped to a maximum of 35° to accommodate a ridge (see illustration). Specify angle of the slope. Reduce allowable load using straight-line interpolation. See Open/Closed example.



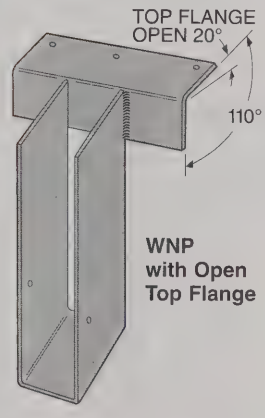
Typical W Top View Skewed Left Type A Hanger



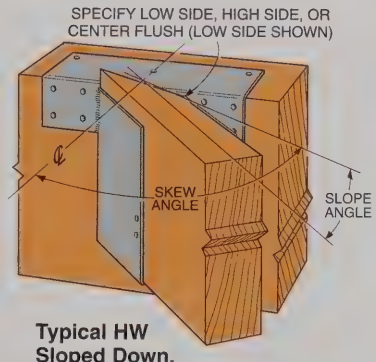
Typical HW Top Flange Sloped Down Left with Low Side Flush



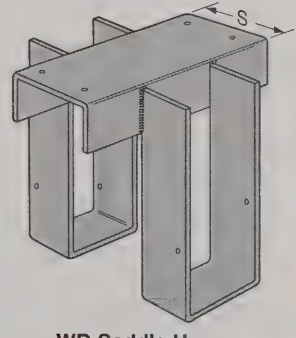
Typical W Skewed Left Type B Hanger (specify A style if required)



WNP with Open Top Flange

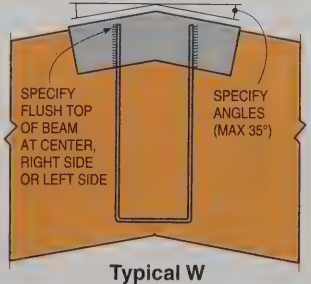


Typical HW Sloped Down, Skewed Right with Low Side Flush Type A Hanger (joist end must be bevel cut)

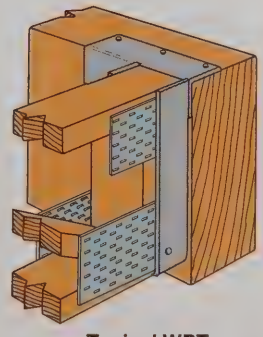


WD Saddle Hanger

Model No.	W	H	Fasteners		Uplift	
			Joist	Header	(133)	(160)
WNPU	1⅜-5½	9-18	6-10dx1½	7-16d	775	855
		18½-22½	6-10dx1½	7-16d	485	485
		23-28	6-10dx1½	7-16d	315	315
WNPUPT	1⅜-3⅜	9-18	6-10dx1½	7-16d	775	855
		18½-22½	6-10dx1½	7-16d	485	485
		23-28	6-10dx1½	7-16d	315	315
HWU	1⅜-7½	9-18	6-10dx1½	8-16d	810	855
		18½-22½	6-10dx1½	8-16d	765	765
		23-28	6-10dx1½	8-16d	635	635
		28½-32	8-10dx1½	8-16d	1005	1005



Typical W Ridge Installation



Typical WPT Top Flange Offset Left

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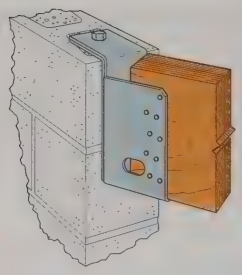
HANGER OPTIONS

MBHA

See Hanger Options General Notes.

SKEWED SEAT

- Seat can be skewed at 45° only. The maximum allowable download is 3495 lbs and 1585 lbs uplift for Height 7.25. For all other models, use the table listed download and uplift of 2390 lbs.



Typical MBHA Installation

LEG/MEG/EG

See Hanger Options General Notes.

SKEWED SEAT—TOP FLANGE MODELS ONLY

- The LEG/MEG/EG series can be skewed up to 45°. The maximum allowable load is 10,000 lbs. for LEG and MEG, 14,250 lbs. for EG.

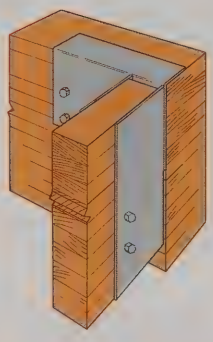
SLOPED SEAT—TOP FLANGE MODELS ONLY

- The LEG/MEG/EG series can be sloped up to 45°. The maximum allowable load is 9665 lbs; see illustration.

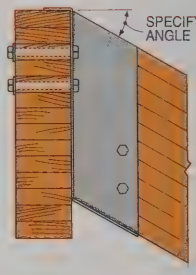
NO SLOPED AND SKEWED COMBO AVAILABLE.

OFFSET TOP FLANGE

- The LEG/MEG top flange may be offset left or right for placement at the end of a header (min W = 3, min H = 11¼) (see illustration). The maximum allowable load is 5665 lbs.
- No skews allowed on offset hangers.



Typical LEG/MEG Top Flange Offset Left



Typical LEG/MEG/EG Sloped Down Installation

WM/WMI/WMU

See Hanger Options General Notes.

INSTALLATION: • Bevel-cut the joist for skewed hangers (see illustration).

HANGER HEIGHT

- For hanger heights exceeding the joist height, the allowable load is 0.50 of the table load.

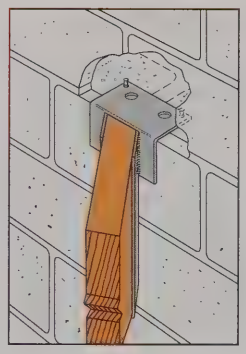
SLOPED AND/OR SKEWED SEAT

- WM/WMI/WMUs may be skewed and/or sloped to 45° maximum.
- The allowable load is 100% of the table load.

OFFSET TOP FLANGE

- The top flange may be offset left or right for placement at the end of a header. The allowable load is 0.50 of the table roof load.

Model No.	W	H	Fasteners			Uplift (133 & 160)
			Joist	Top	Face	
WMU	1½ to 7½	9 to 18	6-10dx1½	2-16d DPLX	4-¼x1" Masonry	660
	1½ to 7½	18½ to 22½	6-10dx1½	2-16d DPLX	4-¼x1" Masonry	660
	1½ to 7½	23 to 28	6-10dx1½	2-16d DPLX	4-¼x1" Masonry	625



Typical WM Sloped Down, Skewed Right Block Wall Installation

MSC

See Hanger Options General Notes.

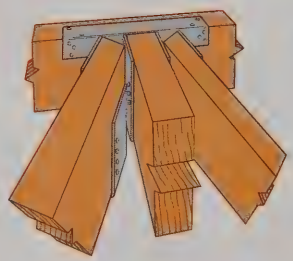
INSTALLATION: • Distribute the total load evenly about the centerline to avoid eccentric loading.

- Fasten all built-up members together as one unit.
- **Net height will be calculated based on specified valley rafter depth and slope by the factory unless noted otherwise.**

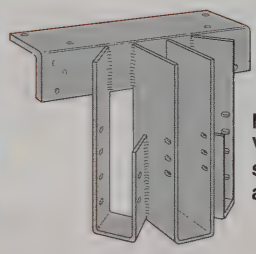
SLOPED AND/OR SKEWED VALLEYS

- The valley rafter stirrups can be sloped & skewed to 45°.
- The total design load of the hanger is split between the ridge rafter (20%) and each valley rafter (40%).
- For two valley rafter connections with no ridge rafter member, divide the total load by two for each valley rafter load.

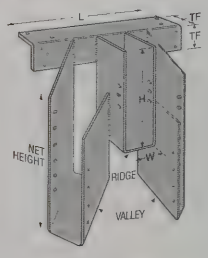
CODE: BOCA, ICBO, SBCCI NER-432.



Typical MSC4 Installation



MSC1.81 with Valley rafter skewed 45 , and sloped 0



MSC4 with Valley Rafters sloped and skewed 45

Model No.	Dimensions				Fasteners		Hips		Allowable Loads (100 & 125)		
	W	H (Min)	TF	L	Header	Joist	Max. Skew	Max. Slope	Hip	Jack	Total
MSC2	1⅜	5½	2⅞	12	10-16d	18-10dx1½	45°	0°	2535	1265	6335
						26-10dx1½		45°	2010	1005	5025
MSC1.81	1 13/16	5½	2⅞	12	10-16d	18-10dx1½	45°	0°	2535	1265	6335
						26-10dx1½		45°	2010	1005	5025
MSC4	3⅜	7½	2⅞	18	10-16d	18-10d	45°	0°	3335	1665	8335
						26-10d		45°	3335	1665	8335

1. For valley rafters with combined slope and skews between 0° and 45°, use 45° slope and skew loads.
2. Use total load when there is no center member.
3. MSC4 is available in 3⅛" Glulam width.
4. MSC1.81 and MSC2 available in saddle conditions. (order MSCDI.81)

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ANSI/TPI 1-1995 NOTE

ANSI/TPI 1-1995 is the *National Design Standard for Metal Plate Connected Wood Truss Construction*. Within this standard, the design criteria and design responsibilities for all truss-to-truss connections are defined. One section of this standard includes a requirement to check the cross grain tension value of the lumber in the carrying (girder) member at each face mount hanger connection.

Although the ANSI/TPI 1-1995 standard does not affect the carrying capacity of our connectors, the cross grain tension of the lumber may be limiting. This calculated value for the lumber is controlled by the lumber cross-section (number of plys), wood species and the location of the upper most fastener in the face mount hangers. Some face mount truss hanger connections will have reduced allowable load values when this standard is applied. See Simpson Strong-Tie's ANSI/TPI load tables on pages 146-151.

Connections Unaffected by ANSI/TPI 1-1995

- Top flange hangers such as the PF, HUTF, WPT series, and MSCPT are not affected.
- THA adjustable truss hangers are not affected provided the hanger is wrapped over the top of the truss chord and is fastened to either the top or back of the chord.
- Bolted connections such as our THGB series, and THG2AR/L are not affected when attached to a vertical web member.
- Connectors attached to a solid sawn header, glulam beam or composite wood product such as an LVL, PSL and LSL are not affected.
- Miscellaneous connectors such as the VPA, HRC, HCP, LTS, MTS, HTS, TBE, TC, ETA, META, HHETA Hurricane Ties and angles are not affected.

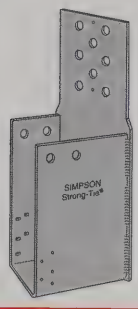
HANGER OPTIONS

THGB

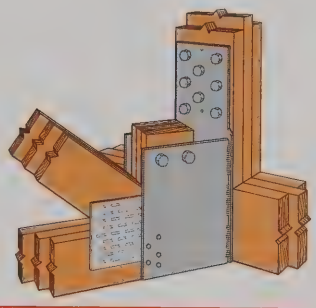
See Hanger Options General Notes.

SLOPED OR SKEWED SEAT

- The maximum allowable load for slope is .87 of the table load.
- The maximum allowable load for skew is .74 of the table load.



THGBH3SKL



Typical THGB Installation Skewed Left

GLT/HGLT/GLS/HGLS/GLTC/GLTV/HGLTV

See Hanger Options General Notes.

INSTALLATION: • Bevel-cut the carried beam for skewed hangers.

HANGER HEIGHT

- For hangers exceeding the joist height by 2", allowable load is 50% of the table roof load.

SLOPED AND/OR SKEWED SEAT

- GLT/HGLT and GLS/HGLS series may be skewed to a maximum of 50° or sloped to a maximum of 45°.
- For skews greater than 15°, multiply the table uplift load by 0.50.
- For sloped only, the maximum allowable load is 6500 lbs. for the GLT/GLS, 9165 lbs. for the HGLT/HGLS.
- For skewed only, the maximum allowable load is 6550 lbs. for the GLT/GLS, 7,980 lbs. for the HGLT/HGLS. The deflection at full loading may reach ¼".
- Sloped and skewed GLT/GLS configurations have a maximum allowable load of 5500 lbs. **Sloped and skewed combinations are not allowed for the HGLT/HGLS.**

SLOPED TOP FLANGE

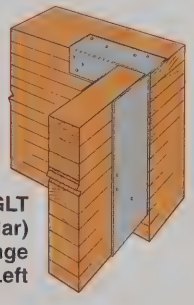
- A top flange may be sloped down left or down right to 30° with or without a sloped and/or skewed seat (see illustration). Reduce allowable table loads using straight-line interpolation.

OFFSET TOP FLANGE

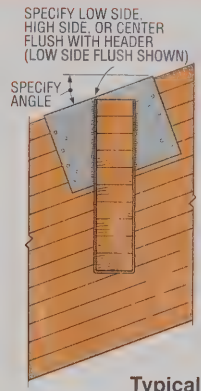
- The top flange may be offset left or right for placement at the end of a header. The maximum allowable load is 0.50 of the table roof load for the GLT/GLS, and 0.45 for the HGLT/HGLS.
- For skewed and offset top flange hangers, the maximum allowable load is 3500 lbs.

MODIFIED FOR UPLIFT CAPACITY

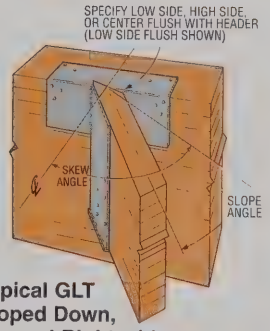
- The 3 gauge GLTC is a modified GLT with enclosed stirrup and backing plate for higher uplift conditions.
- First attach the GLTC to the joist. Then lift the joist and hanger into place.
- The maximum allowable loads are 3660 lbs uplift and 7000 lbs download.



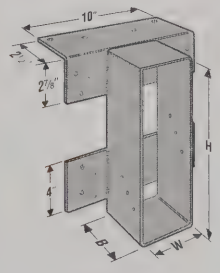
Typical GLT (HGLT similar) Top Flange Offset Left



Typical HGLT Top Flange Sloped Down Left with Low Side Flush



Typical GLT Sloped Down, Skewed Right with Low Side Flush



GLTC

CUSTOM STEEL PLATES

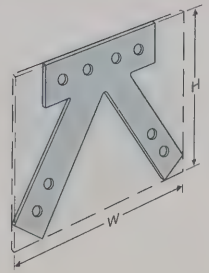
Simpson makes a variety of flat and bent steel shapes, which include gusset plates for heavy timber trusses, custom ornamental shapes and retaining plates.

MATERIAL: 3 gauge maximum

FINISH: Galvanized, Simpson black or gray paint, stainless steel.

TO ORDER: • Supply a CAD drawing in DXF format with complete details of hole shapes, hole sizes, and hole patterns (approx. 1/16" tolerance), scale 1:1.

- Total plate shape and size up to max. dimensions of 48" x 48" (approx. 1/16" tolerance).
- Simpson does not provide product engineering or load values for Custom Steel Plates.
- Pricing is based on "envelope" size of requested steel shape. Contact Simpson for information.



"W" and "H" indicate the envelope size of the steel shape.

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ANSI/TPI 1-1995 Allowable Loads (DF)

SIMPSON Strong-Tie CONNECTORS

ANSI/TPI 1-1995 Allowable Loads - Douglas Fir																				
Model No.	No. of Carrying Member Plys	Minimum Heel Height[1]	Uplift		2x6 Carrying Member					2x8 Carrying Member					2x10 Carrying Member				
					Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind
			(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)
1 PLY CARRIED MEMBER																				
LU24	1	2 3/16	245	265	355	410	445	475	475	355	410	445	475	475	355	410	445	475	475
	2	2 3/16	245	265	530	610	665	710	710	530	610	665	710	710	530	610	665	710	710
LUS24	1	2 5/8	465	490	410	470	510	545	545	410	470	510	545	545	410	470	510	545	545
	2	2 5/8	465	490	640	735	800	850	850	640	735	800	850	850	640	735	800	850	850
U24	1	2 3/16	240	265	355	410	445	475	475	355	410	445	475	475	355	410	445	475	475
	2	2 3/16	240	265	530	610	665	710	710	530	610	665	710	710	530	610	665	710	710
LU26	1	4 3/16	490	565	535	615	670	680	680	535	615	670	680	680	535	615	670	680	680
	2	4 3/16	490	565	800	920	1000	1015	1015	800	920	1000	1015	1015	800	920	1000	1015	1015
LUS26	1	4 4/16	930	1115	530	610	665	710	710	530	610	665	710	710	530	610	665	710	710
	2	4 4/16	930	1115	830	955	1040	1110	1110	830	955	1040	1110	1110	830	955	1040	1110	1110
U26	1	4 3/8	480	575	535	615	670	715	715	535	615	670	715	715	535	615	670	715	715
	2	4 3/8	480	575	800	920	1000	1065	1065	800	920	1000	1065	1065	800	920	1000	1065	1065
HU26	1	3 1/16	240	290	360	410	450	480	480	360	410	450	480	480	360	410	450	480	480
	2	3 1/16	240	290	535	615	670	715	715	535	615	670	715	715	535	615	670	715	715
HUS26	1	4 5/16	1550	1550	1580	1820	1975	2100	2135	805	925	1005	1070	1285	885	1015	1105	1175	1415
	2	4 5/16	1550	1550	2565	2950	3205	3335	3335	1610	1850	2010	2140	2575	1770	2035	2210	2350	2830
HGUS26	1	4 9/16	1425	1425	2055	2365	2500	2500	2500	830	955	1040	1105	1330	890	1025	1110	1185	1425
	2	4 9/16	1425	1425	3755	3905	3905	3905	3905	1660	1910	2080	2210	2660	1780	2045	2225	2365	2845
LU28	1	5 15/16	735	850	—	—	—	—	—	715	820	890	950	950	715	820	890	950	950
	2	5 15/16	735	850	—	—	—	—	—	1065	1225	1330	1420	1420	1065	1225	1330	1420	1420
LUS28	1	4 3/16	930	1115	—	—	—	—	—	675	775	845	900	900	675	775	845	900	900
	2	4 3/16	930	1115	—	—	—	—	—	1055	1210	1320	1405	1405	1055	1210	1320	1405	1405
HU28	1	5 1/4	480	575	515	590	645	685	685	515	590	645	685	685	515	590	645	685	685
	2	5 1/4	480	575	805	925	1005	1070	1070	805	925	1005	1070	1070	805	925	1005	1070	1070
HUS28	1	6 1/2	2000	2000	—	—	—	—	—	2265	2350	2400	2450	2450	1100	1260	1370	1460	1755
	2	6 1/2	2000	2000	—	—	—	—	—	3380	3505	3585	3655	3655	2195	2525	2740	2920	3510
HGUS28	1	5 9/16	1755	1755	—	—	—	—	—	3235	3235	3235	3235	3235	1150	1325	1440	1530	1840
	2	5 9/16	1755	1755	—	—	—	—	—	5055	5055	5055	5055	5055	2300	2650	2880	3060	3685
LUS210	1	4 1/4	930	1115	—	—	—	—	—	—	—	—	—	—	815	940	1020	1090	1090
	2	4 1/4	930	1115	—	—	—	—	—	—	—	—	—	—	1275	1470	1595	1700	1700
U210	1	6 3/16	720	865	—	—	—	—	—	—	—	—	—	—	890	1025	1110	1130	1130
	2	6 3/16	720	865	—	—	—	—	—	—	—	—	—	—	1330	1530	1660	1685	1685
HU210	1	7 1/8	480	575	—	—	—	—	—	720	830	900	960	960	720	830	900	960	960
	2	7 1/8	480	575	—	—	—	—	—	1070	1235	1340	1430	1430	1070	1235	1340	1430	1430
HUS210	1	8 3/8	2845	3000	—	—	—	—	—	—	—	—	—	—	2295	2400	2465	2520	2520
	2	8 3/8	2845	3000	—	—	—	—	—	—	—	—	—	—	3585	3745	3850	3935	3935
2 PLY CARRIED MEMBER																				
LUS24-2	1	2 5/16	565	565	490	565	615	655	655	490	565	615	655	655	490	565	615	655	655
	2	2 5/16	565	565	765	880	960	1020	1020	765	880	960	1020	1020	765	880	960	1020	1020
LUS26-2	1	4 9/16	1140	1165	640	735	800	855	855	640	735	800	855	855	640	735	800	855	855
	2	4 9/16	1140	1165	1000	1150	1250	1335	1335	1000	1150	1250	1335	1335	1000	1150	1250	1335	1335
HU26-2	1	5 3/8	905	1085	1080	1240	1350	1440	1440	805	925	1005	1070	1290	885	1020	1105	1175	1415
	2	5 3/8	905	1085	1610	1850	2010	2145	2145	1610	1850	2010	2140	2145	1610	1850	2010	2145	2145
HHUS26-2	1	4 5/16	1550	1550	1650	1900	2065	2200	2200	830	955	1040	1105	1330	890	1025	1110	1185	1425
	2	4 5/16	1550	1550	2580	2965	3225	3440	3440	1660	1910	2080	2210	2660	1780	2045	2225	2365	2845
	3	4 5/16	1550	1550	2580	2965	3225	3440	3440	2495	2870	3115	3315	3440	2580	2965	3225	3440	3440
HGUS26-2	1	4 9/16	2000	2000	2055	2365	2570	2735	3095	830	955	1040	1105	1330	890	1025	1110	1185	1425
	2	4 9/16	2000	2000	3755	4320	4695	4835	4835	1660	1910	2080	2210	2660	1780	2045	2225	2365	2845
	3	4 9/16	2000	2000	3755	4320	4695	4835	4835	2495	2870	3115	3315	3990	2670	3070	3335	3550	4270
LUS28-2	1	4 9/16	1140	1165	—	—	—	—	—	810	930	1015	1080	1080	810	930	1015	1080	1080
	2	4 9/16	1140	1165	—	—	—	—	—	1265	1455	1585	1690	1690	1265	1455	1585	1690	1690
HU28-2	1	7	905	1085	—	—	—	—	—	1255	1445	1570	1675	1675	1100	1260	1370	1460	1675
	2	7	905	1085	—	—	—	—	—	1875	2155	2345	2500	2500	1875	2155	2345	2500	2500
HHUS28-2	1	6 9/16	2000	2000	—	—	—	—	—	2405	2770	3010	3200	3315	1100	1260	1370	1460	1755
	2	6 9/16	2000	2000	—	—	—	—	—	3885	4465	4855	5180	5180	2195	2525	2740	2920	3510
	3	6 9/16	2000	2000	—	—	—	—	—	3885	4465	4855	5180	5180	3290	3785	4115	4380	5180
HGUS28-2	1	5 9/16	2650	2650	—	—	—	—	—	3510	4040	4390	4670	5120	1150	1325	1440	1530	1840
	2	5 9/16	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	2300	2650	2880	3060	3685
	3	5 9/16	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	3455	3970	4320	4595	5525
LUS210-2	1	6 7/16	1550	1550	—	—	—	—	—	—	—	—	—	—	1130	1300	1415	1510	1510
	2	6 7/16	1550	1550	—	—	—	—	—	—	—	—	—	—	1765	2030	2210	2355	2355
HU210-2	1	8 13/16	1505	1810	—	—	—	—	—	—	—	—	—	—	1615	1860	2020	2155	2155
	2	8 13/16	1505	1810	—	—	—	—	—	—	—	—	—	—	2410	2775	3015	3215	3215
HHUS210-2	1	8 3/8	2855	3000	—	—	—	—	—	—	—	—	—	—	3320	3775	3775	3775	3775
	2	8 3/8	2855	3000	—	—	—	—	—	—	—	—	—	—	5190	5900	5900	5900	5900
	3	8 3/8	2855	3000	—	—	—	—	—	—	—	—	—	—	5190	5900	5900	5900	5900
HGUS210-2	1	7 9/16	3415	3665	—	—	—	—	—	—	—	—	—	—	5050	5190	5265	5330	5330
	2	7 9/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8110	8225	8325	8325
	3	7 9/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8110	8225	8325	8325
3 PLY CARRIED MEMBER																				
HGUS26-3	1	4 1/2	2000	2000	800	855	930	990	1190	800	815	885	945	1135	885	1020	1105	1175	1415
	2	4 1/2	2000	2000	1490	1710	1860	1980	2380	1420	1630	1775	1890	2270	1770	2035	2210	2355	2830
	3	4 1/2	2000	2000	2230	2565	2790	2970	3570	2130	2450	2660	2830	3410	2655	3050	3320	3530	4245
HGUS28-3	1	5 3/4	2650	2650	—	—	—	—	—	3510	4040	4390	4670	5120	1150	1325	1440	1530	1840
	2	5 3/4	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	2300	2650	2880	3060	3685
	3	5 3/4	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	3455	3970	4320	4595	5525
HGUS210-3	1	7 11/16	3415	3665	—	—	—	—	—	—	—	—	—	—	5050	5545	5545	5545	5545
	2	7 11/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8665	8665	8665	8665
	3	7 11/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8665	8665	8665	8665

See footnotes on opposite page.

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ANSI/TPI 1-1995 Allowable Loads (DF)

ANSI/TPI 1-1995 Allowable Loads - Douglas Fir																				
Model No.	No.of Carrying Member Plys	Minimum Heel Height[1]	Uplift		2x6 Carrying Member					2x8 Carrying Member					2x10 Carrying Member				
					Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind
			(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)
4X CONNECTORS																				
LUS46	1	4 3/8	1140	1165	640	735	800	855	855	640	735	800	855	855	640	735	800	855	855
	2	4 3/8	1140	1165	1000	1150	1250	1335	1335	1000	1150	1250	1335	1335	1000	1150	1250	1335	1335
HHUS46	1	4 5/16	1550	1550	1425	1635	1780	1890	2200	800	910	990	1055	1270	880	1015	1105	1175	1410
	2	4 5/16	1550	1550	2580	2965	3225	3440	3440	1585	1825	1980	2110	2540	1765	2030	2205	2350	2825
	3	4 5/16	1550	1550	2580	2965	3225	3440	3440	2380	2735	2970	3165	3440	2580	2965	3225	3440	3440
LUS48	1	4 11/32	1140	1165	—	—	—	—	—	810	930	1015	1080	1080	810	930	1015	1080	1080
	2	4 11/32	1140	1165	—	—	—	—	—	1265	1455	1585	1690	1690	1265	1455	1585	1690	1690
HHUS48	1	6 1/2	2000	2000	—	—	—	—	—	2005	2310	2510	2670	3210	1065	1225	1330	1420	1705
	2	6 1/2	2000	2000	—	—	—	—	—	3885	4465	4855	5180	5180	2130	2450	2665	2835	3410
	3	6 1/2	2000	2000	—	—	—	—	—	3885	4465	4855	5180	5180	3195	3675	3995	4250	5115
HGUS48	1	5 7/16	2650	2650	—	—	—	—	—	2850	3275	3560	3790	4555	1125	1290	1405	1495	1795
	2	5 7/16	2650	2650	—	—	—	—	—	5695	6550	7120	7575	8000	2245	2580	2805	2985	3595
	3	5 7/16	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	3370	3875	4210	4480	5390
LUS410	1	6 7/32	1550	1550	—	—	—	—	—	—	—	—	—	—	1130	1300	1415	1510	1510
	2	6 7/32	1550	1550	—	—	—	—	—	—	—	—	—	—	1765	2030	2210	2355	2355
U410	1	6 13/16	890	1065	—	—	—	—	—	—	—	—	—	—	1245	1435	1560	1665	1665
	2	6 13/16	890	1065	—	—	—	—	—	—	—	—	—	—	1860	2140	2330	2485	2485
HHUS410	1	8 3/8	2855	3430	—	—	—	—	—	—	—	—	—	—	3195	3670	3775	3775	3775
	2	8 3/8	2855	3430	—	—	—	—	—	—	—	—	—	—	5190	5900	5900	5900	5900
	3	8 3/8	2855	3430	—	—	—	—	—	—	—	—	—	—	5190	5900	5900	5900	5900
HGUS410	1	7 7/16	3415	3665	—	—	—	—	—	—	—	—	—	—	4565	5250	5545	5545	5545
	2	7 7/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8665	8665	8665	8665
	3	7 7/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8665	8665	8665	8665
45 DEGREE SKEW CONNECTORS																				
SUR/L24	1	2 7/8	450	450	355	410	445	475	475	355	410	445	475	475	355	410	445	475	475
	2	2 7/8	450	450	530	610	665	710	710	530	610	665	710	710	530	610	665	710	710
SUR/L26	1	4 9/16	720	765	535	615	670	715	715	535	615	670	715	715	535	615	670	715	715
	2	4 9/16	720	765	800	920	1000	1065	1065	800	920	1000	1065	1065	800	920	1000	1065	1065
SUR/L210	1	7 11/16	1200	1250	—	—	—	—	—	—	—	—	—	—	890	1025	1110	1190	1190
	2	7 11/16	1200	1250	—	—	—	—	—	—	—	—	—	—	1330	1530	1660	1775	1775
SUR/L26-2	1	4 1/8	710	815	715	820	890	940	940	715	820	890	940	940	715	820	890	940	940
	2	4 1/8	710	815	1065	1225	1330	1400	1400	1065	1225	1330	1400	1400	1065	1225	1330	1400	1400
HSUR/L26-2	1	4 1/8	715	815	—	—	—	—	—	—	—	—	—	—	1080	1240	1340	1340	1340
	2	4 1/8	715	815	—	—	—	—	—	—	—	—	—	—	1610	1850	2000	2000	2000
SUR/L210-2	1	7 7/8	1065	1275	—	—	—	—	—	—	—	—	—	—	1245	1435	1560	1665	1665
	2	7 7/8	1065	1275	—	—	—	—	—	—	—	—	—	—	1860	2140	2330	2485	2485
HSUR/L210-2	1	7 7/8	1070	1285	—	—	—	—	—	—	—	—	—	—	1795	2065	2245	2345	2345
	2	7 7/8	1070	1285	—	—	—	—	—	—	—	—	—	—	2680	3080	3350	3500	3500
SUR/L46	1	4	710	815	715	820	890	940	940	715	820	890	940	940	715	820	890	940	940
	2	4	710	815	1065	1225	1330	1400	1400	1065	1225	1330	1400	1400	1065	1225	1330	1400	1400
HSUR/L46	1	4	715	815	800	905	985	1045	1260	800	825	895	955	1150	880	1015	1105	1175	1340
	2	4	715	815	1575	1810	1965	2000	2000	1435	1650	1790	1910	2000	1610	1850	2000	2000	2000
SUR/L410	1	7 11/16	1065	1275	—	—	—	—	—	—	—	—	—	—	1245	1435	1560	1665	1665
	2	7 11/16	1065	1275	—	—	—	—	—	—	—	—	—	—	1860	2140	2330	2485	2485
HSUR/L410	1	7 11/16	1070	1285	—	—	—	—	—	—	—	—	—	—	1795	2065	2245	2345	2345
	2	7 11/16	1070	1285	—	—	—	—	—	—	—	—	—	—	2680	3080	3350	3500	3500
HIP/JACK CONNECTORS																				
THJA26	1	3 9/16	960	960	1795	2065	2190	2190	2190	830	955	1040	1105	1330	890	1025	1110	1185	1425
	2	3 9/16	960	960	2680	3080	3265	3265	3265	1660	1910	2080	2210	2660	1780	2045	2225	2365	2845
	3	3 9/16	960	960	2680	3080	3265	3265	3265	2495	2870	3115	3265	3265	2670	3070	3265	3265	3265
LTHJR/L	1	4 5/8	735	830	1110	1275	1385	1475	1560	800	875	955	1015	1220	880	1010	1100	1170	1410
	2	4 5/8	735	830	1515	1745	1895	1900	1900	1515	1745	1895	1900	1900	1515	1745	1895	1900	1900
LTHMA	1	1 13/16	130	130	1410	1410	1410	1410	1410	805	925	1005	1070	1290	885	1020	1105	1175	1410
	2	1 13/16	195	195	2000	2300	2340	2340	2340	1610	1850	2010	2140	2340	1770	2035	2210	2340	2340
MTHM	1	4 5/16	1790	1790	1580	1820	1975	2100	2530	805	925	1005	1070	1290	885	1020	1105	1175	1415
	2	4 5/16	1790	1790	3160	3635	3950	4205	4650	1610	1850	2010	2140	2575	1770	2035	2210	2355	2830
	3	4 5/16	1790	1790	4650	4650	4650	4650	4650	2415	2775	3020	3210	3860	2655	3050	3320	3530	4245
MTHM-2	1	4 5/16	1860	1860	1580	1820	1975	2100	2530	805	925	1005	1070	1290	885	1020	1105	1175	1415
	2	4 5/16	1860	1860	3160	3635	3950	4205	4890	1610	1850	2010	2140	2575	1770	2035	2210	2355	2830
	3	4 5/16	1860	1860	4740	4890	4890	4890	4890	2415	2775	3020	3210	3860	2655	3050	3320	3530	4245
ADJUSTABLE SLOPE/SKEW CONNECTORS																				
LSU26	1	3 11/16[5]	485	535	560	645	670	670	670	560	645	670	670	670	560	645	670	670	670
	2	3 11/16[5]	485	535	665	765	800	800	800	665	765	800	800	800	665	765	800	800	800
LSSU28	1	6 5/8[5]	485	535	—	—	—	—	—	930	1070	1170	1245	1245	930	1070	1170	1245	1245
	2	6 5/8[5]	485	535	—	—	—	—	—	1110	1275	1390	1480	1480	1110	1275	1390	1480	1480
LSSU210	1	8 5/8[5]	730	875	—	—	—	—	—	930	1070	1170	1245	1245	930	1070	1170	1245	1245
	2	8 5/8[5]	730	875	—	—	—	—	—	1110	1275	1390	1480	1480	1110	1275	1390	1480	1480
LSSU210-2	1	8 1/2[5]	1150	1150	—	—	—	—	—	1845	2120	2300	2455	2455	1150	1325	1440	1530	1840
	2	8 1/2[5]	1150	1150	—	—	—	—	—	2395	2755	2990	3190	3190	2300	2650	2880	3060	3190
LSSU410	1	8 1/2[5]	1150	1150	—	—	—	—	—	1845	2120	2300	2455	2455	1150	1325	1440	1530	1840
	2	8 1/2[5]	1150	1150	—	—	—	—	—	2395	2755	2990	3190	3190	2300	2650	2880	3060	3190

1. The minimum heel height is measured from the top of the bearing seat to the uppermost nail into the carried member + 3/8 inch.
2. For HU26-2, HU28-2, HU210-2 and HU9, install fasteners in both round and triangle holes.
3. The LU24, LUS24, U24, HU26, LUS24-2, MTHM, MTHM-2, and SUR/L24 may be attached to 2x4 carrying members. Allowable loads for the LU24, LUS24, U24, HU26, LUS24-2, SUR/L24 are as listed for attachments to 2x6 carrying members. Allowable loads for the MTHM, and MTHM-2 are as listed on page 108.
4. The effective height for installations on 2x6 to 2x10 carrying members.
5. Plumb cut height.

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ANSI/TPI 1-1995 Allowable Loads (SP)

SIMPSON Strong-Tie CONNECTORS

ANSI/TPI 1-1995 Allowable Loads - Southern Pine																				
Model No.	No. of Carrying Member Plys	Minimum Heel Height[1]	Uplift		2x6 Carrying Member					2x8 Carrying Member					2x10 Carrying Member				
					Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind
			(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)
1 PLY CARRIED MEMBER																				
LU24	1	2 3/16	245	265	355	410	445	475	475	355	410	445	475	475	355	410	445	475	475
	2	2 3/16	245	265	530	610	665	710	710	530	610	665	710	710	530	610	665	710	710
LUS24	1	2 5/8	465	490	410	470	510	545	545	410	470	510	545	545	410	470	510	545	545
	2	2 5/8	465	490	640	735	800	850	850	640	735	800	850	850	640	735	800	850	850
U24	1	2 3/16	240	265	355	410	445	475	475	355	410	445	475	475	355	410	445	475	475
	2	2 3/16	240	265	530	610	665	710	710	530	610	665	710	710	530	610	665	710	710
LU26	1	4 3/16	490	565	535	615	670	680	680	535	615	670	680	680	535	615	670	680	680
	2	4 3/16	490	565	800	920	1000	1015	1015	800	920	1000	1015	1015	800	920	1000	1015	1015
LUS26	1	4 4/16	930	1115	530	610	665	710	710	530	610	665	710	710	530	610	665	710	710
	2	4 4/16	930	1115	830	955	1040	1110	1110	830	955	1040	1110	1110	830	955	1040	1110	1110
U26	1	4 3/8	480	575	535	615	670	715	715	535	615	670	715	715	535	615	670	715	715
	2	4 3/8	480	575	800	920	1000	1065	1065	800	920	1000	1065	1065	800	920	1000	1065	1065
HU26	1	3 1/16	240	290	358	410	450	480	480	360	410	450	480	480	360	410	450	480	480
	2	3 1/16	240	290	535	615	670	715	715	535	615	670	715	715	535	615	670	715	715
HUS26	1	4 5/16	1550	1550	1500	1720	1870	1990	2135	800	875	955	1015	1220	840	965	1050	1115	1340
	2	4 5/16	1550	1550	2565	2950	3205	3335	3335	1525	1755	1905	2030	2440	1675	1930	2095	2230	2680
HGUS26	1	4 9/16	1425	1425	1950	2240	2435	2500	2500	800	905	985	1050	1260	840	970	1055	1120	1350
	2	4 9/16	1425	1425	3755	3905	3905	3905	3905	1575	1810	1970	2095	2520	1685	1940	2105	2240	2695
LU28	1	5 15/16	735	850	—	—	—	—	—	715	820	890	950	950	715	820	890	950	950
	2	5 15/16	735	850	—	—	—	—	—	1065	1225	1330	1420	1420	1065	1225	1330	1420	1420
LUS28	1	4 3/16	930	1115	—	—	—	—	—	675	775	845	900	900	675	775	845	900	900
	2	4 3/16	930	1115	—	—	—	—	—	1055	1210	1320	1405	1405	1055	1210	1320	1405	1405
HU28	1	5 1/4	480	575	515	590	645	685	685	515	590	645	685	685	515	590	645	685	685
	2	5 1/4	480	575	805	925	1005	1070	1070	805	925	1005	1070	1070	805	925	1005	1070	1070
HUS28	1	6 1/2	2000	2000	—	—	—	—	—	2265	2350	2400	2450	2450	1040	1195	1300	1380	1665
	2	6 1/2	2000	2000	—	—	—	—	—	3380	3505	3585	3655	3655	2080	2390	2600	2765	3325
HGUS28	1	5 9/16	1755	1755	—	—	—	—	—	3235	3235	3235	3235	3235	1090	1255	1365	1450	1745
	2	5 9/16	1755	1755	—	—	—	—	—	5055	5055	5055	5055	5055	2180	2510	2730	2900	3490
LUS210	1	4 1/4	930	1115	—	—	—	—	—	—	—	—	—	—	815	940	1020	1090	1090
	2	4 1/4	930	1115	—	—	—	—	—	—	—	—	—	—	1275	1470	1595	1700	1700
U210	1	6 3/16	720	865	—	—	—	—	—	—	—	—	—	—	890	1025	1110	1130	1130
	2	6 3/16	720	865	—	—	—	—	—	—	—	—	—	—	1330	1530	1660	1685	1685
HU210	1	7 1/8	480	575	—	—	—	—	—	720	830	900	960	960	720	830	900	960	960
	2	7 1/8	480	575	—	—	—	—	—	1070	1235	1340	1430	1430	1070	1235	1340	1430	1430
HUS210	1	8 3/8	2845	3000	—	—	—	—	—	—	—	—	—	—	2295	2400	2465	2520	2520
	2	8 3/8	2845	3000	—	—	—	—	—	—	—	—	—	—	3585	3745	3850	3935	3935
2 PLY CARRIED MEMBER																				
LUS24-2	1	2 5/16	565	565	490	565	615	655	655	490	565	615	655	655	490	565	615	655	655
	2	2 5/16	565	565	765	880	960	1020	1020	765	880	960	1020	1020	765	880	960	1020	1020
LUS26-2	1	4 9/16	1140	1165	640	735	800	855	855	640	735	800	855	855	640	735	800	855	855
	2	4 9/16	1140	1165	1000	1150	1250	1335	1335	1000	1150	1250	1335	1335	1000	1150	1250	1335	1335
HU26-2	1	5 3/8	905	1085	1080	1240	1350	1440	1440	800	875	955	1015	1220	840	965	1050	1115	1340
	2	5 3/8	905	1085	1610	1850	2010	2145	2145	1525	1755	1905	2030	2145	1610	1850	2010	2145	2145
HHUS26-2	1	4 5/16	1550	1550	1650	1900	2065	2200	2200	800	905	985	1050	1260	840	970	1055	1120	1350
	2	4 5/16	1550	1550	2580	2965	3225	3440	3440	1575	1810	1970	2095	2520	1685	1940	2105	2240	2700
	3	4 5/16	1550	1550	2580	2965	3225	3440	3440	2360	2715	2950	3140	3440	2530	2905	3160	3360	3440
HGUS26-2	1	4 9/16	2000	2000	1950	2240	2435	2590	3095	800	905	985	1050	1260	840	970	1055	1120	1350
	2	4 9/16	2000	2000	3755	4320	4695	4835	4835	1575	1810	1970	2095	2520	1685	1940	2105	2240	2695
	3	4 9/16	2000	2000	3755	4320	4695	4835	4835	2360	2715	2950	3140	3780	2530	2905	3160	3360	4045
LUS28-2	1	4 9/16	1140	1165	—	—	—	—	—	810	930	1015	1080	1080	810	930	1015	1080	1080
	2	4 9/16	1140	1165	—	—	—	—	—	1265	1455	1585	1690	1690	1265	1455	1585	1690	1690
HU28-2	1	7	905	1085	—	—	—	—	—	1256	1445	1570	1675	1675	1040	1195	1300	1380	1665
	2	7	905	1085	—	—	—	—	—	1875	2155	2345	2500	2500	1875	2155	2345	2500	2500
HHUS28-2	1	6 9/16	2000	2000	—	—	—	—	—	2280	2620	2850	3030	3315	1040	1195	1300	1380	1665
	2	6 9/16	2000	2000	—	—	—	—	—	3885	4465	4855	5180	5180	2080	2390	2600	2765	3325
	3	6 9/16	2000	2000	—	—	—	—	—	3885	4465	4855	5180	5180	3120	3585	3900	4145	4990
HGUS28-2	1	5 9/16	2650	2650	—	—	—	—	—	3325	3825	4160	4425	5120	1090	1255	1365	1450	1745
	2	5 9/16	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	2180	2510	2730	2900	3490
	3	5 9/16	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	3270	3765	4090	4350	5235
LUS210-2	1	6 7/16	1550	1550	—	—	—	—	—	—	—	—	—	—	1130	1300	1415	1510	1510
	2	6 7/16	1550	1550	—	—	—	—	—	—	—	—	—	—	1765	2030	2210	2355	2355
HU210-2	1	8 13/16	1505	1810	—	—	—	—	—	—	—	—	—	—	1615	1860	2020	2155	2155
	2	8 13/16	1505	1810	—	—	—	—	—	—	—	—	—	—	2410	2775	3015	3215	3215
HHUS210-2	1	8 3/8	2855	3000	—	—	—	—	—	—	—	—	—	—	3320	3775	3775	3775	3775
	2	8 3/8	2855	3000	—	—	—	—	—	—	—	—	—	—	5190	5900	5900	5900	5900
	3	8 3/8	2855	3000	—	—	—	—	—	—	—	—	—	—	5190	5900	5900	5900	5900
HGUS210-2	1	7 9/16	3415	3665	—	—	—	—	—	—	—	—	—	—	5050	5190	5265	5330	5330
	2	7 9/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8110	8225	8325	8325
	3	7 9/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8110	8225	8325	8325
3 PLY CARRIED MEMBER																				
HGUS26-3	1	4 1/2	2000	2000	800	810	880	940	1130	800	800	840	895	1075	840	965	1050	1115	1340
	2	4 1/2	2000	2000	1410	1620	1760	1875	2255	1345	1550	1680	1790	2150	1675	1930	2095	2230	2680
	3	4 1/2	2000	2000	2115	2430	2640	2810	3380	2020	2320	2520	2685	3230	2515	2890	3145	3345	4020
HGUS28-3	1	5 3/4	2650	2650	—	—	—	—	—	3325	3825	4160	4425	5120	1090	1255	1365	1450	1745
	2	5 3/4	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	2180	2510	2730	2900	3490
	3	5 3/4	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	3270	3765	4090	4350	5235
HGUS210-3	1	7 11/16	3415	3665	—	—	—	—	—	—	—	—	—	—	5050	5545	5545	5545	5545
	2	7 11/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8665	8665	8665	8665
	3	7 11/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8665	8665	8665	8665

See footnotes on opposite page.

ANSI/TPI 1-1995 Allowable Loads (SP)

ANSI/TPI 1-1995 Allowable Loads - Southern Pine																				
Model No.	No. of Carrying Member Plys	Minimum Heel Height[1]	Uplift		2x6 Carrying Member					2x8 Carrying Member					2x10 Carrying Member				
					Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind
			(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)
4X CONNECTORS																				
LUS46	1	4 3/8	1140	1165	640	735	800	855	855	640	735	800	855	855	640	735	800	855	855
	2	4 3/8	1140	1165	1000	1150	1250	1335	1335	1000	1150	1250	1335	1335	1000	1150	1250	1335	1335
HHUS46	1	4 5/16	1550	1550	1350	1550	1685	1795	2160	800	865	940	1000	1200	865	960	1045	1110	1340
	2	4 5/16	1550	1550	2580	2965	3225	3440	3440	1500	1730	1880	2000	2405	1675	1925	2090	2225	2675
	3	4 5/16	1550	1550	2580	2965	3225	3440	3440	2255	2590	2815	2995	3440	2510	2885	3135	3340	3440
LUS48	1	4 11/32	1140	1165	—	—	—	—	—	810	930	1015	1080	1080	810	930	1015	1080	1080
	2	4 11/32	1140	1165	—	—	—	—	—	1265	1455	1585	1690	1690	1265	1455	1585	1690	1690
HHUS48	1	6 1/2	2000	2000	—	—	—	—	—	1900	2185	2375	2530	3040	1010	1160	1260	1345	1615
	2	6 1/2	2000	2000	—	—	—	—	—	3800	4370	4750	5055	5180	2020	2320	2525	2685	3230
	3	6 1/2	2000	2000	—	—	—	—	—	3885	4465	4855	5180	5180	3030	3485	3785	4030	4850
HGUS48	1	5 7/16	2650	2650	—	—	—	—	—	2700	3100	3370	3590	4315	1065	1225	1330	1415	1700
	2	5 7/16	2650	2650	—	—	—	—	—	5395	6205	6745	7175	8000	2130	2450	2660	2830	3405
	3	5 7/16	2650	2650	—	—	—	—	—	6245	7185	7810	8000	8000	3190	3670	3990	4245	5105
LUS410	1	6 7/32	1550	1550	—	—	—	—	—	—	—	—	—	—	1130	1300	1415	1510	1510
	2	6 7/32	1550	1550	—	—	—	—	—	—	—	—	—	—	1765	2030	2210	2355	2355
U410	1	6 13/16	890	1065	—	—	—	—	—	—	—	—	—	—	1245	1435	1560	1665	1665
	2	6 13/16	890	1065	—	—	—	—	—	—	—	—	—	—	1860	2140	2330	2485	2485
HHUS410	1	8 3/8	2855	3430	—	—	—	—	—	—	—	—	—	—	3025	3480	3775	3775	3775
	2	8 3/8	2855	3430	—	—	—	—	—	—	—	—	—	—	5190	5900	5900	5900	5900
	3	8 3/8	2855	3430	—	—	—	—	—	—	—	—	—	—	5190	5900	5900	5900	5900
HGUS410	1	7 7/16	3415	3665	—	—	—	—	—	—	—	—	—	—	4325	4975	5410	5545	5545
	2	7 7/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8665	8665	8665	8665
	3	7 7/16	3415	3665	—	—	—	—	—	—	—	—	—	—	7890	8665	8665	8665	8665
45 DEGREE SKEWED CONNECTORS																				
SUR/L24	1	2 7/8	450	450	355	410	445	475	475	355	410	445	475	475	355	410	445	475	475
	2	2 7/8	450	450	530	610	665	710	710	530	610	665	710	710	530	610	665	710	710
SUR/L26	1	4 9/16	720	765	535	615	670	715	715	535	615	670	715	715	535	615	670	715	715
	2	4 9/16	720	765	800	920	1000	1065	1065	800	920	1000	1065	1065	800	920	1000	1065	1065
SUR/L210	1	7 11/16	1200	1250	—	—	—	—	—	—	—	—	—	—	890	1025	1110	1190	1190
	2	7 11/16	1200	1250	—	—	—	—	—	—	—	—	—	—	1330	1530	1660	1775	1775
SUR/L26-2	1	4 1/8	710	815	715	820	890	940	940	715	805	875	930	940	715	820	890	940	940
	2	4 1/8	710	815	1065	1225	1330	1400	1400	1065	1225	1330	1400	1400	1065	1225	1330	1400	1400
HSUR/L26-2	1	4 1/8	715	815	—	—	—	—	—	—	—	—	—	—	1080	1240	1340	1340	1340
	2	4 1/8	715	815	—	—	—	—	—	—	—	—	—	—	1610	1850	2000	2000	2000
SUR/L210-2	1	7 7/8	1065	1275	—	—	—	—	—	—	—	—	—	—	1245	1435	1560	1665	1665
	2	7 7/8	1065	1275	—	—	—	—	—	—	—	—	—	—	1860	2140	2330	2485	2485
HSUR/L210-2	1	7 7/8	1070	1285	—	—	—	—	—	—	—	—	—	—	1795	2065	2245	2345	2345
	2	7 7/8	1070	1285	—	—	—	—	—	—	—	—	—	—	2680	3080	3350	3500	3500
SUR/L46	1	4	710	815	715	820	890	940	940	715	800	850	905	940	715	820	890	940	940
	2	4	710	815	1065	1225	1330	1400	1400	1065	1225	1330	1400	1400	1065	1225	1330	1400	1400
HSUR/L46	1	4	715	815	800	860	930	990	1195	800	800	850	905	1090	865	960	1045	1110	1340
	2	4	715	815	1490	1715	1865	1985	2000	1360	1560	1700	1810	2000	1610	1850	2000	2000	2000
SUR/L410	1	7 11/16	1065	1275	—	—	—	—	—	—	—	—	—	—	1245	1435	1560	1665	1665
	2	7 11/16	1065	1275	—	—	—	—	—	—	—	—	—	—	1860	2140	2330	2485	2485
HSUR/L410	1	7 11/16	1070	1285	—	—	—	—	—	—	—	—	—	—	1795	2065	2245	2345	2345
	2	7 11/16	1070	1285	—	—	—	—	—	—	—	—	—	—	2680	3080	3350	3500	3500
HIP/JACK CONNECTORS																				
THJA26	1	3 9/16	960	960	1795	2065	2190	2190	2190	800	905	985	1050	1260	840	970	1055	1120	1350
	2	3 9/16	960	960	2680	3080	3265	3265	3265	1575	1810	1970	2095	2520	1685	1940	2105	2240	2695
	3	3 9/16	960	960	2680	3080	3265	3265	3265	2360	2715	2950	3140	3265	2530	2905	3160	3265	3265
LTHJR/L	1	4 5/8	735	830	1050	1210	1315	1400	1560	800	830	905	960	1155	830	960	1040	1110	1335
	2	4 5/8	735	830	1515	1745	1895	1900	1900	1445	1660	1805	1900	1900	1515	1745	1895	1900	1900
LTHMA	1	1 13/16	130	130	1410	1410	1410	1410	1410	800	875	955	1015	1220	840	965	1050	1115	1340
	2	1 13/16	195	195	2000	2300	2340	2340	2340	1525	1755	1905	2030	2340	1675	1930	2095	2230	2340
MTHM	1	4 5/16	1790	1790	1500	1720	1870	1990	2395	800	875	955	1015	1220	840	965	1050	1115	1340
	2	4 5/16	1790	1790	2995	3445	3745	3985	4650	1525	1755	1905	2030	2440	1675	1930	2095	2230	2680
	3	4 5/16	1790	1790	4490	4650	4650	4650	4650	2285	2630	2860	3040	3660	2515	2890	3145	3345	4020
MTHM-2	1	4 5/16	1860	1860	1500	1720	1870	1990	2395	800	875	955	1015	1220	840	965	1050	1115	1340
	2	4 5/16	1860	1860	2995	3445	3745	3985	4790	1525	1755	1905	2030	2440	1675	1930	2095	2230	2680
	3	4 5/16	1860	1860	4490	4890	4890	4890	4890	2285	2630	2860	3040	3680	2515	2890	3145	3345	4025
ADJUSTABLE SLOPE/SKEW CONNECTORS																				
LSU26	1	3 11/16[5]	485	535	560	615	670	670	670	560	645	670	670	670	560	645	670	670	670
	2	3 11/16[5]	485	535	665	765	800	800	800	665	765	800	800	800	665	765	800	800	800
LSSU28	1	6 5/8[5]	485	535	—	—	—	—	—	930	1070	1170	1245	1245	930	1070	1170	1245	1245
	2	6 5/8[5]	485	535	—	—	—	—	—	1110	1275	1390	1480	1480	1110	1275	1390	1480	1480
LSSU210	1	8 5/8[5]	730	875	—	—	—	—	—	930	1070	1170	1245	1245	930	1070	1170	1245	1245
	2	8 5/8[5]	730	875	—	—	—	—	—	1110	1275	1390	1480	1480	1110	1275	1390	1480	1480
LSSU210-2	1	8 1/2[5]	1150	1150	—	—	—	—	—	1845	2120	2300	2455	2455	1090	1255	1365	1450	1745
	2	8 1/2[5]	1150	1150	—	—	—	—	—	2395	2755	2990	3190	3190	2180	2510	2730	2900	3190
LSSU410	1	8 1/2[5]	1150	1150	—	—	—	—	—	1845	2120	2300	2455	2455	1090	1255	1365	1450	1745
	2	8 1/2[5]	1150	1150	—	—	—	—	—	2395	2755	2990	3190	3190	2180	2510	2730	2900	3190

1. The minimum heel height is measured from the top of the bearing seat to the uppermost nail into the carried member + 3/8 inch.
2. For HU26-2, HU28-2, HU210-2 and HU9, install fasteners in both round and triangle holes.
3. The LU24, LUS24, U24, HU26, LUS24-2, MTHM, MTHM-2, and SUR/L24 may be attached to 2x4 carrying members. Allowable loads for the LU24, LUS24, U24, HU26, LUS24-2, SUR/L24 are as listed for attachments to 2x6 carrying members. Allowable loads for the MTHM, and MTHM-2 are as listed on page 108.
4. The effective height for installations on 2x6 to 2x10 carrying members.
5. Plumb cut height.

ANSI/TPI 1-1995 Allowable Loads (SPF)

SIMPSON Strong-Tie CONNECTORS

ANSI/TPI 1-1995 Allowable Loads - Spruce-Pine-Fir																				
Model No.	No. of Carrying Member Plys	Minimum Heel Height[1]	Uplift		2x6 Carrying Member					2x8 Carrying Member					2x10 Carrying Member				
					Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind
			(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)
1 PLY CARRIED MEMBER																				
LU24	1	2 3/16	210	255	310	355	385	410	410	310	355	385	410	410	310	355	385	410	410
	2	2 3/16	210	255	460	530	575	615	615	460	530	575	615	615	460	530	575	615	615
LUS24	1	2 5/8	390	465	345	400	430	465	465	345	400	430	465	465	345	400	430	465	465
	2	2 5/8	390	465	540	625	675	725	725	540	625	675	725	725	540	625	675	725	725
U24	1	2 3/16	210	250	310	355	385	410	410	310	355	385	410	410	310	355	385	410	410
	2	2 3/16	210	250	460	530	575	615	615	460	530	575	615	615	460	530	575	615	615
LU26	1	4 3/16	420	505	460	530	575	615	615	460	530	575	615	615	460	530	575	615	615
	2	4 3/16	420	505	690	795	860	920	920	690	795	860	920	920	690	795	860	920	920
LUS26	1	4 4/16	780	935	450	515	560	600	600	450	515	560	600	600	450	515	560	600	600
	2	4 4/16	780	935	700	805	875	935	935	700	805	875	935	935	700	805	875	935	935
U26	1	4 3/8	415	500	460	530	575	615	615	460	530	575	615	615	460	530	575	615	615
	2	4 3/8	415	500	690	795	860	920	920	690	795	860	920	920	690	795	860	920	920
HU26	1	3 1/16	210	250	310	360	390	415	415	310	360	390	415	415	310	360	390	415	415
	2	3 1/16	210	250	465	535	580	620	620	465	535	580	620	620	465	535	580	620	620
HUS26	1	4 5/16	1390	1550	1165	1340	1455	1550	1650	800	800	800	800	950	800	800	815	865	1045
	2	4 5/16	1390	1550	2155	2475	2540	2580	2580	1185	1365	1480	1575	1895	1305	1500	1630	1735	2085
HGUS26	1	4 9/16	1425	1425	1515	1740	1895	2015	2295	800	800	800	815	980	800	800	820	870	1050
	2	4 9/16	1425	1425	3030	3485	3585	3585	3585	1225	1410	1530	1630	1960	1310	1510	1640	1745	2100
LU28	1	5 15/16	630	760	—	—	—	—	—	615	710	770	820	820	615	710	770	820	820
	2	5 15/16	630	760	—	—	—	—	—	920	1060	1150	1225	1225	920	1060	1150	1225	1225
LUS28	1	4 3/16	780	935	—	—	—	—	—	570	655	715	760	760	570	655	715	760	760
	2	4 3/16	780	935	—	—	—	—	—	890	1025	1115	1190	1190	890	1025	1115	1190	1190
HU28	1	5 1/4	415	500	445	510	555	595	595	445	510	555	595	595	445	510	555	595	595
	2	5 1/4	415	500	695	800	870	930	930	695	800	870	930	930	695	800	870	930	930
HUS28	1	6 1/2	1855	2000	—	—	—	—	—	1730	1795	1840	1875	1875	810	930	1010	1075	1295
	2	6 1/2	1855	2000	—	—	—	—	—	2580	2680	2745	2800	2800	1615	1860	2020	2150	2585
HGUS28	1	5 9/16	1755	1755	—	—	—	—	—	2580	2660	2700	2700	2700	850	975	1060	1130	1360
	2	5 9/16	1755	1755	—	—	—	—	—	4030	4155	4215	4215	4215	1700	1950	2120	2255	2715
LUS210	1	4 1/4	780	935	—	—	—	—	—	—	—	—	—	—	695	795	865	925	925
	2	4 1/4	780	935	—	—	—	—	—	—	—	—	—	—	1085	1245	1355	1445	1445
U210	1	6 3/16	625	750	—	—	—	—	—	—	—	—	—	—	770	885	965	1030	1030
	2	6 3/16	625	750	—	—	—	—	—	—	—	—	—	—	1150	1320	1440	1535	1535
HU210	1	7 1/8	415	500	—	—	—	—	—	625	715	775	825	825	625	715	775	825	825
	2	7 1/8	415	500	—	—	—	—	—	930	1065	1160	1235	1235	930	1065	1160	1235	1235
HUS210	1	8 3/8	2320	2780	—	—	—	—	—	—	—	—	—	—	1755	1835	1890	1935	1935
	2	8 3/8	2320	2780	—	—	—	—	—	—	—	—	—	—	2745	2870	2955	3025	3025
2 PLY CARRIED MEMBER																				
LUS24-2	1	2 5/16	465	555	410	470	510	545	545	410	470	510	545	545	410	470	510	545	545
	2	2 5/16	465	555	640	735	800	855	855	640	735	800	855	855	640	735	800	855	855
LUS26-2	1	4 9/16	925	1115	525	605	655	700	700	525	605	655	700	700	525	605	655	700	700
	2	4 9/16	925	1115	820	945	1025	1095	1095	820	945	1025	1095	1095	820	945	1025	1095	1095
HU26-2	1	5 3/8	785	940	930	1070	1165	1245	1245	800	800	800	800	950	800	800	815	865	1045
	2	5 3/8	785	940	1390	1600	1740	1855	1855	1185	1365	1480	1575	1855	1305	1500	1630	1735	1855
HHUS26-2	1	4 5/16	1395	1550	1386	1595	1735	1850	1850	800	800	800	815	980	800	800	820	870	1050
	2	4 5/16	1395	1550	2165	2490	2710	2890	2890	1225	1410	1530	1630	1960	1310	1510	1640	1745	2100
	3	4 5/16	1395	1550	2165	2490	2710	2890	2890	1835	2115	2295	2445	2890	1965	2260	2455	2615	2890
HGUS26-2	1	4 9/16	2000	3185	1515	1740	1895	2015	2425	800	800	800	815	980	800	800	820	870	1050
	2	4 9/16	2000	3185	3030	3485	3785	4030	4245	1225	1410	1530	1630	1960	1310	1510	1640	1745	2100
	3	4 9/16	2000	3185	3185	3660	3980	4245	4245	1835	2115	2295	2445	2940	1965	2260	2455	2615	3145
LUS28-2	1	4 9/16	925	1115	—	—	—	—	—	670	775	840	900	900	670	775	840	900	900
	2	4 9/16	925	1115	—	—	—	—	—	1050	1210	1315	1405	1405	1050	1210	1315	1405	1405
HU28-2	1	7	785	940	—	—	—	—	—	1090	1255	1360	1450	1450	810	930	1010	1075	1295
	2	7	785	940	—	—	—	—	—	1625	1870	2030	2165	2165	1615	1860	2020	2150	2165
HHUS28-2	1	6 9/16	1860	2000	—	—	—	—	—	1775	2040	2215	2360	2795	810	930	1010	1075	1295
	2	6 9/16	1860	2000	—	—	—	—	—	3275	3765	4095	4370	4370	1615	1860	2020	2150	2585
	3	6 9/16	1860	2000	—	—	—	—	—	3275	3765	4095	4370	4370	2425	2790	3030	3225	3880
HGUS28-2	1	5 9/16	2330	2650	—	—	—	—	—	2585	2975	3235	3440	3980	850	975	1060	1130	1355
	2	5 9/16	2330	2650	—	—	—	—	—	5175	5950	6150	6220	6220	1695	1950	2120	2255	2715
	3	5 9/16	2330	2650	—	—	—	—	—	5335	6070	6150	6220	6220	2545	2925	3180	3385	4070
LUS210-2	1	6 7/16	1390	1550	—	—	—	—	—	—	—	—	—	—	940	1075	1170	1250	1250
	2	6 7/16	1390	1550	—	—	—	—	—	—	—	—	—	—	1465	1680	1830	1950	1950
HU210-2	1	8 13/16	1305	1570	—	—	—	—	—	—	—	—	—	—	1400	1610	1750	1865	1865
	2	8 13/16	1305	1570	—	—	—	—	—	—	—	—	—	—	2090	2400	2610	2785	2785
HHUS210-2	1	8 3/8	2330	2795	—	—	—	—	—	—	—	—	—	—	2805	3070	3120	3165	3165
	2	8 3/8	2330	2795	—	—	—	—	—	—	—	—	—	—	4385	4795	4875	4945	4945
	3	8 3/8	2330	2795	—	—	—	—	—	—	—	—	—	—	4385	4795	4875	4945	4945
HGUS210-2	1	7 9/16	2795	3355	—	—	—	—	—	—	—	—	—	—	3910	4005	4070	4125	4125
	2	7 9/16	2795	3355	—	—	—	—	—	—	—	—	—	—	6110	6260	6360	6445	6445
	3	7 9/16	2795	3355	—	—	—	—	—	—	—	—	—	—	6110	6260	6360	6445	6445
3 PLY CARRIED MEMBER																				
HGUS26-3	1	4 1/2	1865	2000	800	800	800	800	875	800	800	800	800	835	800	800	815	865	1045
	2	4 1/2	1865	2000	1095	1260	1370	1460	1755	1045	1205	1310	1390	1675	1305	1500	1630	1735	2085
	3	4 1/2	1865	2000	1645	1890	2055	2185	2630	1570	1805	1960	2085	2510	1955	2250	2445	2600	3130
HGUS28-3	1	5 3/4	2330	2650	—	—	—	—	—	2585	2975	3235	3440	4140	850	975	1060	1130	1355
	2	5 3/4	2330	2650	—	—	—	—	—	5175	5950	6465	6880	7110	1695	1950	2120	2255	2715
	3	5 3/4	2330	2650	—	—	—	—	—	5335	6135	6665	7110	7110	2545	2925	3180	3385	4070
HGUS210-3	1	7 11/16	2795	3355	—	—	—	—	—	—	—	—	—	—	4160	4785	5200	5535	5545
	2	7 11/16	2795	3355	—	—	—	—	—	—	—	—	—	—	6745	7755	8430	8665	8665
	3	7 11/16	2795	3355	—	—	—	—	—	—	—	—	—	—	6745	7755	8430	8665	8665

See footnotes on opposite page.

SIMPSON Strong-Tie CONNECTORS

ANSI/TPI 1-1995 Allowable Loads (SPF)

ANSI/TPI 1-1995 Allowable Loads - Spruce-Pine-Fir

Model No.	No.of Carrying Member Plys	Minimum Heel Height[1]	Uplift		2x6 Carrying Member					2x8 Carrying Member					2x10 Carrying Member				
					Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind	Floor	Snow	Roof	Wind	Wind
			(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)	(100)	(115)	(125)	(133)	(160)
4X CONNECTORS																			
LUS46	1	4 3/8	925	1115	525	605	655	700	700	525	605	655	700	700	525	605	655	700	700
	2	4 3/8	925	1115	820	945	1025	1095	1095	820	945	1025	1095	1095	820	945	1025	1095	1095
HHUS46	1	4 5/16	1395	1550	1050	1205	1310	1395	1675	800	800	800	800	935	800	800	815	865	1040
	2	4 5/16	1395	1550	2100	2410	2620	2790	2890	1170	1345	1460	1555	1870	1300	1495	1625	1730	2080
	3	4 5/16	1395	1550	2165	2490	2710	2890	2890	1750	2015	2190	2330	2805	1950	2245	2440	2595	2890
LUS48	1	4 11/32	925	1115	—	—	—	—	—	670	775	840	900	900	670	775	840	900	900
	2	4 11/32	925	1115	—	—	—	—	—	1050	1210	1315	1405	1405	1050	1210	1315	1405	1405
HHUS48	1	6 1/2	1860	2000	—	—	—	—	—	1480	1700	1850	1965	2365	800	905	980	1045	1255
	2	6 1/2	1860	2000	—	—	—	—	—	2955	3400	3695	3930	4370	1570	1805	1965	2090	2515
	3	6 1/2	1860	2000	—	—	—	—	—	3275	3765	4095	4370	4370	2355	2710	2945	3135	3770
HGUS48	1	5 7/16	2330	2650	—	—	—	—	—	2100	2415	2620	2790	3355	825	950	1035	1100	1325
	2	5 7/16	2330	2650	—	—	—	—	—	4195	4825	5245	5580	6715	1655	1905	2070	2200	2645
	3	5 7/16	2330	2650	—	—	—	—	—	5335	6135	6665	7070	7070	2480	2855	3100	3300	3970
LUS410	1	6 7/32	1390	1550	—	—	—	—	—	—	—	—	—	—	940	1075	1170	1250	1250
	2	6 7/32	1390	1550	—	—	—	—	—	—	—	—	—	—	1465	1680	1830	1950	1950
U410	1	6 13/16	770	920	—	—	—	—	—	—	—	—	—	—	1080	1240	1345	1435	1435
	2	6 13/16	770	920	—	—	—	—	—	—	—	—	—	—	1610	1850	2010	2145	2145
HHUS410	1	8 3/8	2330	2795	—	—	—	—	—	—	—	—	—	—	2355	2705	2940	3130	3575
	2	8 3/8	2330	2795	—	—	—	—	—	—	—	—	—	—	4385	5040	5480	5585	5585
	3	8 3/8	2330	2795	—	—	—	—	—	—	—	—	—	—	4385	5040	5480	5585	5585
HGUS410	1	7 7/16	2795	3355	—	—	—	—	—	—	—	—	—	—	3365	3870	4205	4475	4670
	2	7 7/16	2795	3355	—	—	—	—	—	—	—	—	—	—	6730	7110	7210	7295	7295
	3	7 7/16	2795	3355	—	—	—	—	—	—	—	—	—	—	6745	7110	7210	7295	7295
45 DEGREE SKEWED CONNECTORS																			
SUR/L24	1	2 7/8	415	450	310	355	385	410	410	310	355	385	410	410	310	355	385	410	410
	2	2 7/8	415	450	460	530	575	615	615	460	530	575	615	615	460	530	575	615	615
SUR/L26	1	4 9/16	625	750	460	530	575	615	615	460	530	575	615	615	460	530	575	615	615
	2	4 9/16	625	750	690	795	860	920	920	690	795	860	920	920	690	795	860	920	920
SUR/L210	1	7 11/16	1040	1250	771	—	—	—	—	771	—	—	—	—	770	885	965	1030	1030
	2	7 11/16	1040	1250	—	—	—	—	—	—	—	—	—	—	1150	1320	1440	1535	1535
SUR/L26-2	1	4 1/8	615	735	615	675	675	675	675	615	675	675	675	675	615	675	675	675	675
	2	4 1/8	615	735	920	1005	1005	1005	1005	920	1005	1005	1005	1005	920	1005	1005	1005	1005
HSUR/L26-2	1	4 1/8	620	740	—	—	—	—	—	—	—	—	—	—	930	1070	1165	1245	1245
	2	4 1/8	620	740	—	—	—	—	—	—	—	—	—	—	1390	1600	1740	1855	1855
SUR/L210-2	1	7 7/8	920	1105	—	—	—	—	—	—	—	—	—	—	1080	1240	1350	1365	1365
	2	7 7/8	920	1105	—	—	—	—	—	—	—	—	—	—	1610	1850	2010	2040	2040
HSUR/L210-2	1	7 7/8	930	1115	—	—	—	—	—	—	—	—	—	—	1555	1790	1945	2075	2075
	2	7 7/8	930	1115	—	—	—	—	—	—	—	—	—	—	2320	2670	2900	3095	3095
SUR/L46	1	4	615	735	615	675	675	675	675	615	675	675	675	675	615	675	675	675	675
	2	4	615	735	920	1005	1005	1005	1005	920	1005	1005	1005	1005	920	1005	1005	1005	1005
HSUR/L46	1	4	620	740	800	800	800	800	930	800	800	800	800	845	800	800	815	865	1040
	2	4	620	740	1160	1335	1450	1540	1855	1055	1215	1320	1405	1690	1300	1495	1625	1730	1855
SUR/L410	1	7 11/16	920	1105	—	—	—	—	—	—	—	—	—	—	1080	1240	1345	1365	1365
	2	7 11/16	920	1105	—	—	—	—	—	—	—	—	—	—	1610	1850	2010	2040	2040
HSUR/L410	1	7 11/16	930	1115	—	—	—	—	—	—	—	—	—	—	1480	1700	1850	1970	2075
	2	7 11/16	930	1115	—	—	—	—	—	—	—	—	—	—	2320	2670	2900	3095	3095
HIP/JACK CONNECTORS																			
THJA26	1	3 9/16	785	785	1515	1740	1875	1875	1875	800	800	800	815	980	800	800	820	870	1050
	2	3 9/16	785	785	2320	2670	2800	2800	2800	1225	1410	1530	1630	1960	1310	1505	1640	1745	2095
	3	3 9/16	785	785	2320	2670	2800	2800	2800	1835	2115	2295	2445	2800	1965	2260	2455	2615	2800
LTHJR/L	1	4 5/8	630	715	815	940	1020	1085	1310	800	800	800	800	900	800	800	810	860	1035
	2	4 5/8	630	715	1310	1510	1635	1635	1635	1125	1290	1405	1495	1635	1295	1490	1620	1635	1635
LTHMA	1	1 13/16	110	110	1165	1215	1215	1215	1215	800	800	800	800	950	800	800	815	865	1045
	2	1 13/16	195	195	1730	1985	2000	2000	2000	1185	1365	1480	1575	1895	1305	1500	1630	1735	2000
MTHM	1	4 5/16	1450	1450	1165	1340	1455	1550	1865	800	800	800	800	950	800	800	815	865	1045
	2	4 5/16	1450	1450	2330	2680	2910	3100	3725	1185	1365	1480	1575	1895	1305	1500	1630	1735	2085
	3	4 5/16	1450	1450	3495	4000	4000	4000	4000	1780	2045	2225	2365	2845	1955	2250	2445	2600	3130
MTHM-2	1	4 5/16	1500	1500	1165	1340	1455	1550	1865	800	800	800	800	950	800	800	815	865	1045
	2	4 5/16	1500	1500	2330	2680	2910	3100	3725	1185	1365	1480	1575	1895	1305	1500	1630	1735	2085
	3	4 5/16	1500	1500	3495	4020	4200	4200	4200	1780	2045	2225	2365	2845	1955	2250	2445	2600	3130
ADJUSTABLE SLOPE/SKEW CONNECTORS																			
LSU26	1	3 11/16[5]	415	460	485	555	580	580	580	485	555	580	580	580	485	555	580	580	580
	2	3 11/16[5]	415	460	575	660	690	690	690	575	660	690	690	690	575	660	690	690	690
LSSU28	1	6 5/8[5]	415	460	—	—	—	—	—	805	930	1010	1075	1075	800	850	925	980	1075
	2	6 5/8[5]	415	460	—	—	—	—	—	960	1105	1200	1280	1280	960	1105	1200	1280	1280
LSSU210	1	8 5/8[5]	630	755	—	—	—	—	—	805	930	1010	1075	1075	800	850	925	980	1075
	2	8 5/8[5]	630	755	—	—	—	—	—	960	1105	1200	1280	1280	960	1105	1200	1280	1280
LSSU210-2	1	8 1/2[5]	990	990	—	—	—	—	—	1595	1835	1995	2125	2125	850	975	1060	1130	1355
	2	8 1/2[5]	990	990	—	—	—	—	—	2070	2380	2590	2760	2760	1695	1950	2120	2255	2715
LSSU410	1	8 1/2[5]	990	990	—	—	—	—	—	1595	1835	1995	2125	2125	850	975	1060	1130	1355
	2	8 1/2[5]	990	990	—	—	—	—	—	2070	2380	2590	2760	2760	1695	1950	2120	2255	2715

1. The minimum heel height is measured from the top of the bearing seat to the uppermost nail into the carried member + 3/8 inch.
2. For HU26-2, HU28-2, HU210-2 and HU9, install fasteners in both round and triangle holes.
3. The LU24, LUS24, U24, HU26, LUS24-2, MTHM, MTHM-2, and SUR/L24 may be attached to 2x4 carrying members. Allowable loads for the LU24, LUS24, U24, HU26, LUS24-2, SUR/L24 are as listed for attachments to 2x6 carrying members. Allowable loads for the MTHM, and MTHM-2 are as listed on page 108.
4. The effective height for installations on 2x6 to 2x10 carrying members.
5. Plumb cut height.

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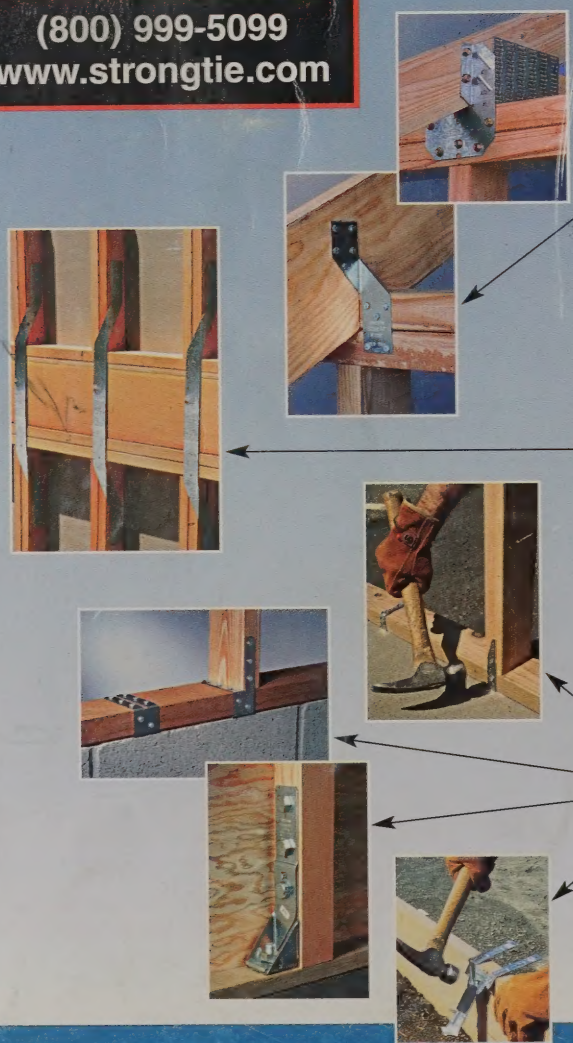
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GET FAST TECHNICAL SUPPORT

When you call for engineering technical support, we can help you quickly if you have the following information at hand. This will help us to serve you promptly and efficiently.

- **What Simpson catalog are you using?** ***(See the front cover for the form number)***
- **Which Simpson product are you using?**
- **What is your load requirement?**
- **What is the carried member's width and height?**
- **What is the supporting member's width and height?**
- **What is the header material and application?**

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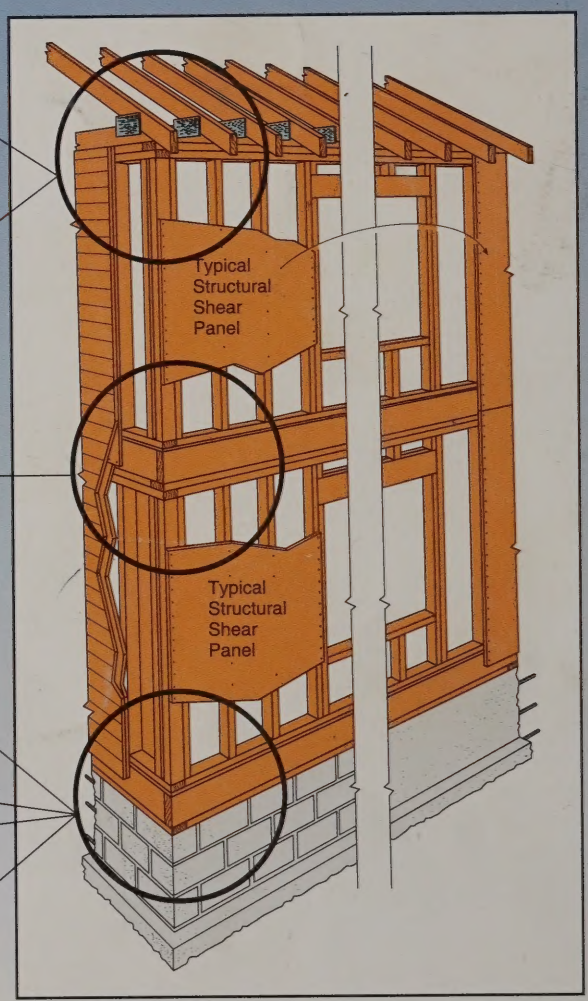


CONTINUOUS LOAD TRANSFER PATH

This drawing shows the connection points for a continuous load transfer path from the rafters to the foundation of a two-story house.

This drawing does not show an engineered system, and does not include any connectors. Refer to the page numbers for the full range of Simpson Strong-Tie connectors.

Consult a qualified designer to ensure that correct quantities, fasteners and installation methods are used to achieve the full design load values.



Typical Roof Connections

Pages 112 to 113, 117 to 119, 128 to 131

Typical Floor-to-Floor Connections

Pages 22 to 24, 122 to 125

Typical Foundation Connections

Pages 12 to 15, 22 to 24, 26, 28, 30 to 31

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